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An Address
ON
TOXIC IDIOPATHIES:

THE RELATIONSHIP BETWEEN HAY AND OTHER POLLEN FEVERS, ANIMAL ASTHMAS, FOOD IDIOSYNCRASIES, BRONCHIAL AND SPASMODIC ASTHMAS, ETC.

Delivered at the Royal Society of Medicine

BY J. FREEMAN, M.D., B.CH.OXON.,
DIRECTOR OF THE DEPARTMENT OF CLINICAL BACTERIOLOGY OF ST. MARY'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—There are a number of affections, apparently dissimilar, which for their study and treatment should be classed together; I have done so by calling them by the group name "toxic idiopathies." I hope to justify this name to you to-day; and I shall be able to make myself clearer if I work through my subject in the order in which the various problems actually occurred to me. This arrangement will give the advantage of proceeding from the better to the less understood parts of the subject.

HAY FEVER.

Hay fever is one of these toxic idiopathies. Leonard Noon started work on this ten years ago; after only a few months he fell ill, and I have been working at the subject since then. It will be convenient to take hay fever as our type, but it will not be necessary, and we should not have time enough, to discuss hay fever exhaustively. All we need do is to tabulate the facts which serve to link it up with the other toxic idiopathies to be discussed later.

I. *Causal agent.*—Grass pollen stands in much the same causal relationship to hay fever that the tubercle bacillus holds in tuberculosis. In this sense pollen—and only grass pollen—causes hay fever; it does so whenever it comes into contact with the tissues of the susceptible person. It can do this at any time of the year, but only does so in nature when the grasses are producing pollen. The incidence of the disease shown in Diagram 1 exactly corresponds to the period of grass pollen production. Experimentally, however, the disease may be produced at any time of year by pollen which has been kept in a dry state.

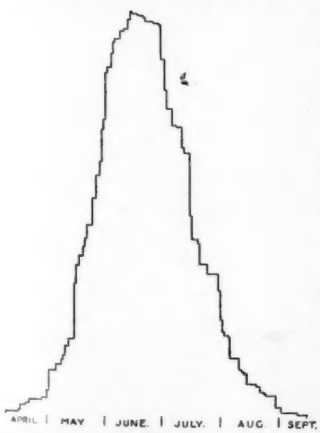


DIAGRAM 1.—Curve showing case incidence of hay fever, compiled from some 300-400 cases studied in the last 10 years.

II. *Spontaneous local symptoms.*—Symptoms are experienced at every point where this pollen can get to work on the tissues of hay fever sufferers. As grass pollen is adapted for its purpose of cross-fertilisation by being extremely easily air-borne (it will even float in air from Norway to Yorkshire, as Blackley showed by his ingenious kite experiments), it is always present in the atmosphere during the grass flowering season, except when it has recently been precipitated by rain. It will, therefore, come in contact with the external surface of the body; but the skin of most pollen-sensitive persons is too thick, too much covered by the dead horny layer of the epithelium, to permit any biological reaction except at the conjunctiva or the mucous membrane of the air-passages. Here, therefore, the local symptoms of hay fever are produced in greatest intensity: inflammation, irritation, œdema, coryza, lacrimation, and sneezing; but thin-skinned persons (chiefly women and children) may suffer itching, erythema, and even urticarial weals over the skin of the face and neck, and some very thin-skinned persons experience this over the entire body.

III. *Artificial local symptoms.*—The natural symptoms can be reproduced at any time of the year, either with dry pollen, or more mercifully with a carefully diluted watery extract of the pollen. Diagram 2 shows the effect on the eye of a hay fever patient, and this ophthalmo-reaction will either: (1) serve as a diagnostic test at any time of the year of the pollen susceptibility which characterises hay fever; or (2) if the reaction is conducted with known dilutions of the pollen extract an estimate can be made of the degree of the susceptibility of that patient.

That the whole body is sensitive, and not merely the eyes, nose, and throat, is shown conclusively by producing reactions in abnormal sites. Dunbar placed pollen in the rectum and got the symptoms. More conveniently, one or two scratches through the horny layer of the epidermis will permit the pollen to act on the living tissues at any point of the body surface. Diagram 3 shows the effect produced by pollen or by a watery extract of pollen on the scratched skin; and such a cutaneo-reaction can, like the ophthalmo-reaction, be used either for diagnosis or quantitatively for measuring the degree of sensitiveness.

Pollen experimentally swallowed with the food gives rise to nausea, vomiting, a feeling of indigestion, and diarrhœa. As this will be of special interest when we consider the toxic idiopathies connected with food sensitiveness, I may, perhaps, here give a sample experiment.

A young man in my hay fever clinic at St. Mary's Hospital recognised in someone who came to see me a brother-in-arms from the same battalion in the war. They readily agreed to split a bottle of beer surreptitiously doctored with pollen. The normal man drank fair but experienced no sensations, but the hay fever patient had marked nausea for four hours, especially on exercise, and, what was most unusual for him, distinct looseness of the bowels for a day or two.

IV. *Constitutional* or distant effects are also produced by the irritant: lassitude, depression, irritability, headaches, general urticaria or œdema, and asthma. Such general symptoms are produced by the natural disease and also by the experimental administrations of pollen at abnormal sites—e.g., by large hypodermic doses (large, that is, from the point of view of therapeusis or prophylaxis), or by incautiously severe skin reactions, or by the experimental ingestion of pollen in the food.[1]

V. The *specificity* is very marked. None but hay fever sufferers will ever react to grass pollen, and grass pollen produces no effect on normal persons.

VI. The *commencement of attacks* may seem to the patient to be due to many things. When, but only when, grass pollen is in contact with the tissues (normally, i.e., when it is in the air during the times of incidence shown in Diagram 1) the hay fever symptoms may be precipitated by a number of diverse stimuli—e.g., by any mechanical irritant, by any strong smell, "even the smell of my dinner," any strong light, a change from cold to hot surroundings (and vice versa), by any strong emotion, like the shock of bad news, or by suggestion. These statements are admittedly given without proof or explanation; perhaps the last of this somewhat indigestible list may be illustrated by comparison with sea-sickness. Vomiting may often be promptly induced, but only on board ship, by people speaking of sea-sickness or by someone imitating a rolling motion; in the same way sniffing at an artificial rose or merely listening to a vivid

[1] Such experimental contact with pollen in abnormal situations may also produce the eye, nose, and throat symptoms of the natural disease. This would certainly seem to denote local sensitisation, but this does not concern our argument here.

description of a sunny field on a hot still day may produce, but only in the hay fever season, fits of sneezing or the ophthalmo-reaction shown in Diagram 2.

All these, as it were, "detonations" of hay fever symptoms may profitably be borne in mind when considering some immediate "causes" of symptoms (e.g., of asthma) in the other toxic idiopathies.

VII. *Passive immunisation* may be produced against hay fever—that is to say, one may immunise a horse or other animal with grass pollen, and the serum of such an animal will give some degree of alleviation from the symptoms. This work was carried out by Dunbar, of Hamburg, the serum being known as pollantin; and it is important to note that pollantin will give definite relief, though this is so slight and transient that the effect is negligible if the case is at all severe.

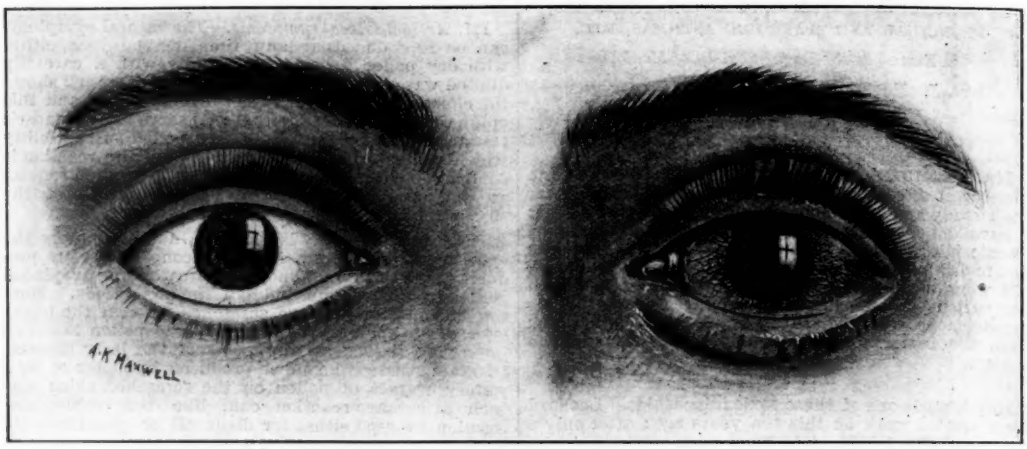


DIAGRAM 2.—Ophthalmo-reaction for diagnosing hay fever. First very dilute extracts of grass pollen, then progressively stronger extracts, are dropped on the eyeball of the patient till a slight itching and a faint redness develops at the inner canthus of the eye. The eye to the left in this diagram shows the normal condition; the other eye shows a definite hay fever reaction. The reaction should take about three minutes to develop.

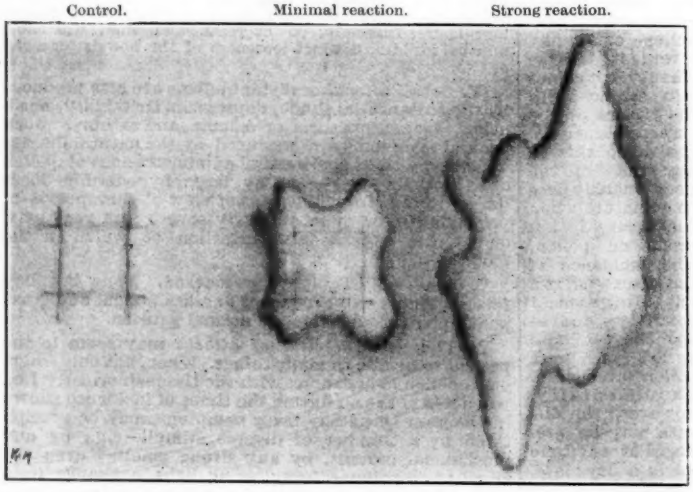


DIAGRAM 3.—Cutaneo-reaction for diagnosing hay fever. Some convenient portion of the skin is scratched to remove the dead, horny layers and then a watery extract of grass pollen is placed thereon. The diagram shows to the left no reaction; in the centre a minimal but definite reaction; to the right a severer reaction produced by a stronger extract. This reaction takes from 10 to 15 minutes to develop.

VIII. *Active immunisation* with a vaccine made from the grass pollen works well, both for prophylaxis and for therapeusis. Noon selected his doses by tracing with the ophthalmo-reaction their effect on his patients; one can also use the cutaneo-reaction. The two curves in Diagram 4 show the changes in sensitiveness which follow the administration of a pollen vaccine. One is measured by the ophthalmo- and the other by the cutaneo-reaction method.

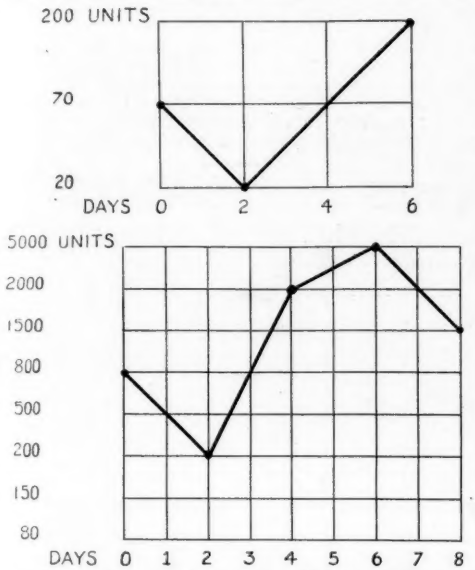
Though there are, of course, failures to deplore, yet from 80 to 90 per cent. of hay fever cases inoculated during the last ten years have been well pleased to have been so treated, and with many of these the results are really striking.

For three months in every year a man had to go to sea because of hay fever, and ruined his business in consequence. One year, through pressure of work, he risked staying in London, and, as a result, spent two months in a dark room with his body packed round with hot-water bottles to stop the shivering fits and his head packed with ice-bags, the conjunctiva skinning off his eyeballs and his lungs gasping for breath. Since his inoculation treatment began nine years ago that man has been at work through each summer, and last year told me that for half an hour one afternoon he "felt a slight annoyance from the old enemy."

IX. *Heredity* is strongly marked in hay fever, as Diagrams 5 and 6 show clearly enough; the monogram made by compounding the letters H and F indicates in this and the succeeding genealogical tables the incidence of hay fever. (In Diagram 6, where H is added, the individual had horse asthma as well as hay fever; the significance of this is mentioned later.) In going over my records of cases last summer I was able to pick out some 200 well-marked examples of heredity, any one of which could have served for my argument. Heredity, we shall find subsequently, is a link which closely binds together the different toxic idiopathies.

For portability we may summarise the foregoing characteristics of our typical toxic idiopathy as: (*a*) the *symptom-complex* both of the natural and also of the artificial disease; (*b*) the *specificity* both of the irritant for that particular patient and of the patient for that particular irritant; and (*c*) *heredity*.

Other pollens than grass pollen produce reactions, each acting on the eye or on the skin of those sensitive to that particular pollen, causing reactions precisely like those shown in Diagrams 2 and 3. Also these pollen sensitivenesses tend to run in hay-fever tainted families—that is to say, they will either affect sufferers from hay fever or their close relatives. Diagram 7 shows in tabular form the response which a number of hay



DIAGRAMS 4A and 4B.—The two curves show the effects on the sensitiveness of a hay fever patient to grass pollen after hypodermic inoculation of a grass pollen vaccine. The upper curve is measured by the ophthalmo-reaction, the lower curve by the cutaneo-reaction. The vertical lines show days after the dose.

fever patients and two relatives show when tested with grass pollen and a random collection of 25 other pollens. From this we may judge that practically every pollen one cares to test will react on some person or another with the hay fever taint; but note how capricious is the selectiveness of the different pollens, reacting with some hay-fever tainted persons strongly, with other persons reacting only weakly, and with others again not at all. One must regard each as being the irritant of a separate toxic idiopathy; each is a potential cause of a fever parallel to hay fever.

How, then, can one say that, in England at any rate, grass pollen causes the only pollen fever which counts? Because in this country grass pollen alone fulfils all the three essentials for a considerable disease. These are: (1) production in sufficient amount; (2) capacity for producing a strong reaction; and (3) dissemination by light wind. For example, many varieties of daisy pollen are frequently strongly toxic and produced in considerable quantities, but this pollen only flies yards where the grass pollen flies miles. Again, the pollen of the firs and pines is produced in large quantities, and is fairly easily borne on light airs, but proves to be only slightly toxic for most persons with the pollen-sensitive taint (Diagram 5 chances to over-represent the toxicity of the coniferæ). In America, however, there is an indigenous race of composites which provoke an intense reaction in those who happen to be susceptible, and, in addition, the pollen is produced in large quantities and is very easily wind-borne. As a result, in America there are two pollen fevers, one occurring at the time of the flowering of these composites—viz., in August, September, and October—which is known as the American autumn fever, and another at the time of the flowering of the grass, which happens about the same time as in Europe, and is, therefore, known as the June fever. It is this latter alone which is rightly called hay fever.

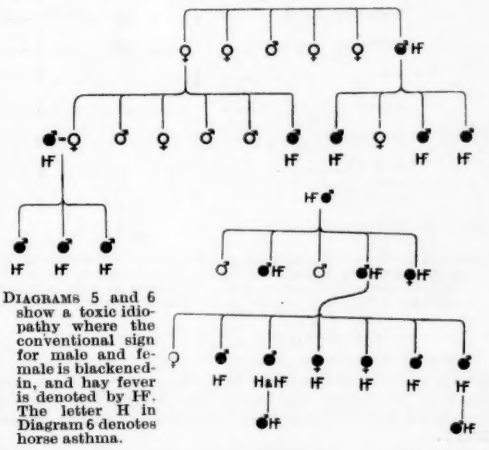
There is much talk in America and elsewhere of pollen fevers caused by other trees and plants, but time will show if they are any of them of much importance. As we have seen, every one of the pollens produces toxic effects upon susceptible people, and it is merely a botanical accident as to whether the particular toxic idiopathy in question makes serious trouble for humanity or not.

ANIMAL ASTHMAS.

Eight or nine years ago hay fever seemed to stand alone, but Dunbar told me that the horse sensitiveness known as "horse asthma" was an occasional symptom, or at least was never found, except associated with hay fever; this, it now appears, is not always true, but why it should frequently be so will be shown when discussing heredity presently. The irritant is usually air-borne, and so the local symptoms are similar to those of hay fever; the victims get red eyes, a running nose, much sneezing, and a tickling throat when near horses, and constitutional symptoms such as are found in hay fever. All these symptoms are produced, especially if the animals are lathering freely or in an ill-ventilated stable. With "horse substance" in place of grass pollen one can carry out parallel reactions to those used for diagnosing or estimating the sensitiveness to hay fever, and Diagrams 2 and 3 would serve equally well for a horse-asthma reaction. Normally it is the horse dandruff (i.e., the débris which comes off on a curry-comb) which picks out for us the horse asthmatic, but almost any part of the horse will provoke the reaction—the flesh, the serum, the urine, the fæces, or the mucous discharge from the nose. Furthermore, other members of the horse tribe share with horses this power to react with a horse-sensitive person, as Diagram 8 shows.

A couple of examples of horse asthma will bring out most of the characteristics and make it a definite disease-entity for us.

An officer in the Horse Guards developed horse asthma and so had to resign his commission; also he had to give up hunting and avoid hunting men until they had changed their clothes and washed after riding. He quickly learned to avoid the trouble, but once, when shooting in Scotland, put on his mackintosh because it was raining. Almost immediately he began to have bad asthma, could not put a gun to his shoulder all day and, on returning to the house, found he had put on the mackintosh belonging to a horsey man, who always wore it when on horseback or kept it rolled up on the horse's withers. The same patient when stopping in a house where a case of diphtheria had occurred received from the local practitioner a dose of antidiphtheritic



DIAGRAMS 5 and 6 show a toxic idiopathy where the conventional sign for male and female is blackened-in, and hay fever is denoted by HF. The letter H in Diagram 6 denotes horse asthma.

serum which, of course, is obtained from horses. As a consequence they sat up with him all night, and were very relieved that he survived. He finds London nowadays very much more comfortable because of the motors, but if there is any wind on a dry day he has to bolt for home because his eyes get affected by the horse-dung, which constitutes the bulk of London street dust.

A lady had for years been noted as a horse asthma patient. Anybody who touched a horse's skin and then rubbed it on the skin of this patient would produce a great urticarial wheal, or if on the face would probably make the eyes bloodshot. Her serum given to a guinea-pig would passively sensitise it to horse serum 48 hours after; human serum and horse serum being, of course, in themselves quite innocuous to guinea-pigs. This same lady was out at a luncheon party one day and developed terrible asthma in the middle of the meal. Suspicion fell on some sausages, which by serological tests were proved to contain horse meat. An injection of horse serum given thoughtlessly on another occasion made her very ill, but relieved her horse asthma for four months.[2]

The ramifications of this strange illness are many. The danger of employing curative sera in such cases is obvious; not so obvious is the necessity for avoiding horsehair mattresses or horsehair upholstery.

occasion a cat strolled into the room where the King and this patient were talking. The latter clenched his hand and tried "to stick it out," but almost immediately incontinently bolted, and had to make his explanations later.

Similarly we have a sensitiveness to sheep, cows, pigs, rabbits, goats, and all the rest of them.

A man who has always hated the presence of rabbits or rabbit meat or rabbit skin. He is devoted to shooting, but always has to get the keepers to put him where there have not been rabbits about; otherwise he knows that he will not hit a bird.

Among these animal asthmas should be included a sensitiveness to the emanations from feathers of birds. This would seem at first sight more trivial than, say, a cat asthma, but is really much more important when it exists; a little tumbling about of pillows, bolsters, quilts, sofa cushions, and soft upholstery in general, will

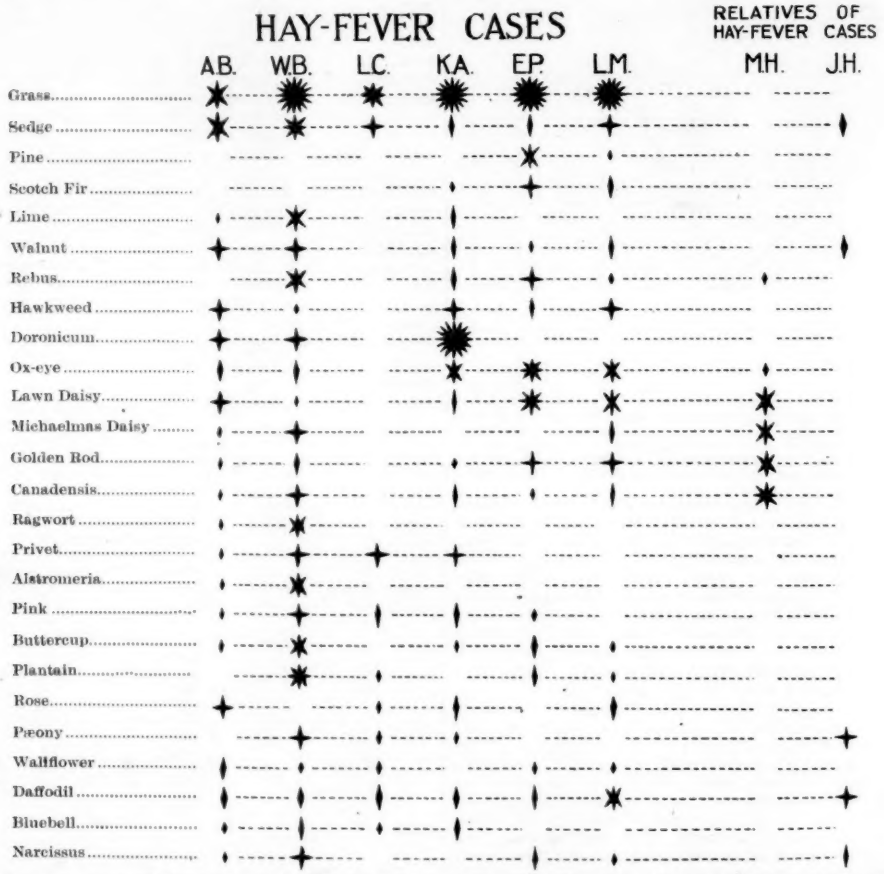


DIAGRAM 7.—Here the extent to which the patient reacts to the pollen in question is denoted by the number of points to a star. The names of plants to the left of the diagram give the type of pollen employed for the particular reaction, and the initials along the top indicate the individuals upon whom these tests were carried out. The first six are hay fever sufferers, the two individuals to the right are relatives of hay fever sufferers and appear in Diagram 13, marked with an asterisk.

Cat and Other Animal Asthmas.

Parallel with horse asthma you have cat asthma, in which various substances from the cat (particles from the fur, the serum, the urine, &c.) provoke skin or eye reactions, like those shown for hay fever in Diagrams 2 and 3.

A patient who had some post at Court told me that he could not bear the presence of cats. They made him gasp for breath, so that he could not stay in the room with them, and would subsequently give him asthma. When you are in the presence of royalty, I understand, you are, so to speak, on parade: you must not go until dismissed. But on one

[2] Besche, of Christiania, in Berlin Klin. Woch., 1918.

send the feather particles into the air. In the words of a patient, "You must put your head on the pillow as if on a wasps' nest." Even the swan's down powder puff may cause trouble.

We summed up hay fever, our type of a toxic idiopathy, under the three headings of Symptom-Complex, Specificity, and Heredity; now let us see how the animal asthmas correspond under these headings.

Symptoms.—As far as circumstances permit, these are identical both in local and constitutional effects. The experimental symptoms also correspond. The respective ophthalmo-and cutaneo-reactions are indistinguishable; an injection of an extract of curry-combings (or,

as we have seen, of antidiphtheritic serum) causes the same symptoms as those which follow an over-bold dose of grass-pollen extract in the hay fever subject. Similarly, eating horse or rabbit produces much the same effect on those sensitive to that particular animal as the experimental ingestion of grass pollen by a hay fever subject.

Specificity.—Here, again, they correspond. The horse asthmatic is sensitive to horse substance and not necessarily to anything else. Each animal substance is sharply specific for its own type of asthmatic, but a patient may suffer from two or more animal asthmas at a time, just as the hay-fever patient may be sensitive to other pollens—e.g., from ox-eye daisies or pæonies. Again, let us say the horse asthmatic may also have hay fever (this occurs in perhaps 40 per cent. of my cases), or he may be quite non-sensitive to pollen; or he may have hay fever early in life, grow out of it, and then develop some animal asthma later in life.

The different animal asthmas are separate or, at any rate, separable toxic idiopathies.

Heredity.—In the hereditary nature of the diseases the animal asthmas correspond to our type, but as they are each of them much rarer than hay fever it is difficult to demonstrate many, say, of horse asthmatics in one family. On reviewing many family histories we find good evidence of heredity, and also that different animal sensitivenesses tend to run in the same family (suggested here by Diagram 9, where a sister is sensitive to cat and a brother to horse).

It is quite clear, even from the few diagrams of heredity here published, that the animal asthmas tend to run in the same families as the hay fever cases; we have horse here in Diagrams 6 and 10, horse and cat in 9, rabbit in 11, and goat in 12, all relating to, and half of them coinciding with, hay fever cases (besides coincidence with, and relation to, the toxic idiopathies to be mentioned next). We have seen that sensitiveness to any particular pollen other than grass tends to run in hay-fever tainted families; so that all our toxic idiopathies tend to be inherited together—there is a common taint.

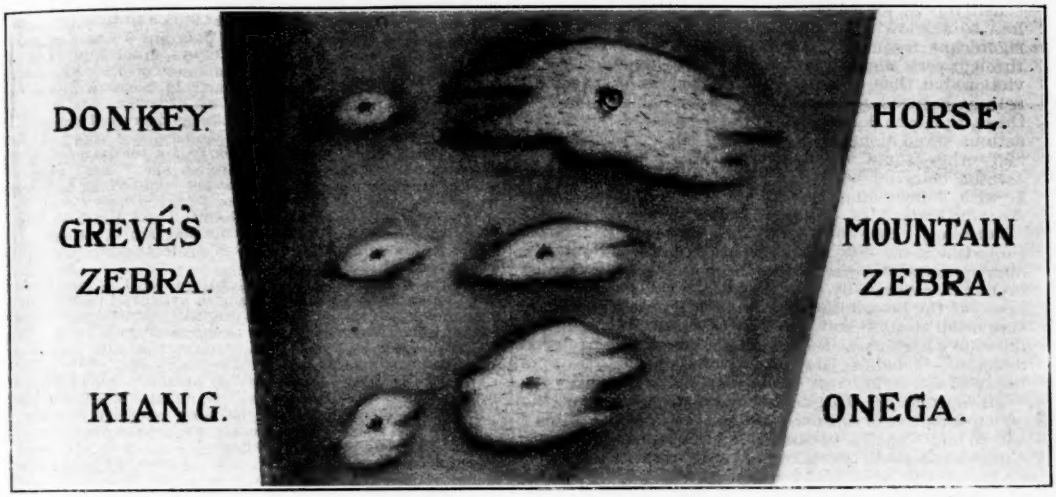
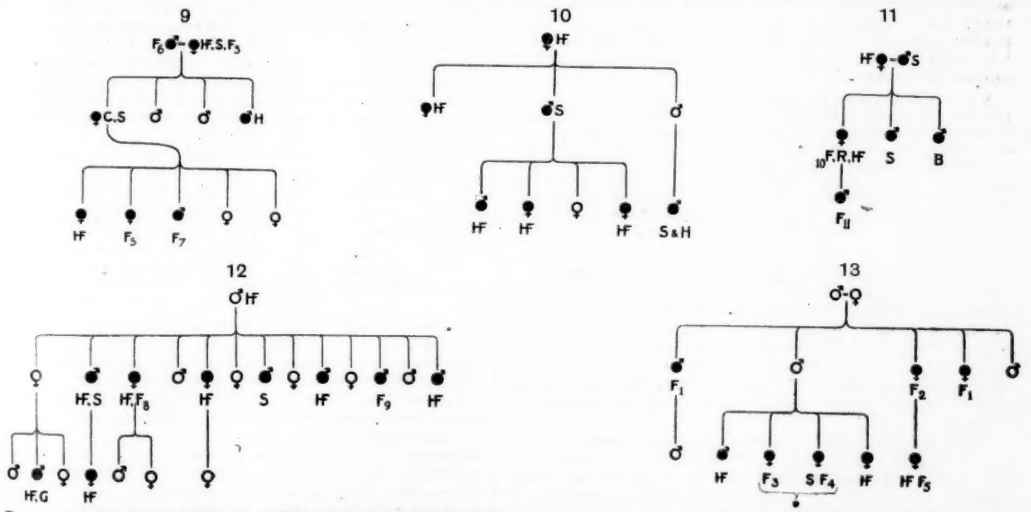


DIAGRAM 8.—Shows the typical response of a horse asthma patient to various members of the Equidæ.



DIAGRAMS 9, 10, 11, 12, and 13.—As in Diagrams 5 and 6, a blackened male or female sign denotes a toxic idiopathy, while the nature of that idiopathy is denoted by the letters attached:—HF, Hay fever; H, Horse asthma; C, Cat asthma; G, Goat asthma; R, Rabbit asthma; B, Bacterial asthma; S, "Spasmodic" asthma; F, Food idiosyncrasy, and the number attached denotes the particular food which reacts: 1, Lobster; 2, Lobster, anchovy and duck egg; 3, Oysters; 4, Mackerel; 5, Honey; 6, Apples; 7, Chicken; 8, Oysters and lobsters; 9, Milk; 10, Onion; 11, Fish.

BACTERIAL AND SPASMODIC ASTHMA.

From my first experience hay fever patients insisted on the occurrence of bronchial and spasmodic asthma in their families; but, to begin with, these complaints were discarded as having no possible connexion with a sensitiveness to pollen. After some time, however, I had to acknowledge that these diseases occurred with significant frequency. It is, again, necessary to work through very many family histories to reach full conviction, but Diagrams 9 to 13 show 11 cases of spasmodic asthma between them and 1 of bronchial asthma. Of these, the bronchial asthma and 4 cases of spasmodic asthma stand alone, though closely related to hay fever and other toxic idiopathies; 2 cases of spasmodic asthma coincide with hay fever, 1 with cat asthma, 1 with horse, and 2 with toxic idiopathies, to be described later.

For many years before the war we of the Inoculation Department of St. Mary's Hospital (and doubtless many others elsewhere) had been inoculating against bronchial asthma by immunising against the bacterial cause of the bronchitis, and frequently with strikingly successful results, and we were driven to the conclusion that the asthma was the remote effect of the bacterial infection. I believe now this asthma is a toxic idiopathy to the endotoxins of that particular microbe.

The specific ophthalmo- and cutaneo-reactions of the pollen-sensitive or animal-sensitive persons (Diagrams 2 and 3) are exactly paralleled by the ophthalmo- and cutaneo-reactions produced by the extracted endotoxins on the bronchial asthmatic,[3] and such reactions are bacterially specific—e.g., a man infected with Pfeiffer's *B. influenzæ* will react to that particular microbe on the scratched skin.

Again, just as violent asthma, œdema, and urticaria can be produced by injudicious injections of the specific irritants in hay fever and animal asthma subjects, so will the same symptoms be produced by too large an injection of the appropriate bacterial vaccine in a case of bronchial asthma, especially by the first dose or two of any series of inoculations.

It is important to note that for bacteria to produce asthma they need not be infecting the bronchi; they may, for instance, be infecting the gut wall—thus, perhaps, paralleling the effect of pollen in the food of a hay fever subject or the specific meat in the food of an animal asthmatic.

A bad case of asthma of several years' standing came to be treated by vaccines, but was refused because no infection of the bronchi could be found, and the case was apparently one of spasmodic asthma. At a second visit a history was obtained of chronic bowel infection, slight pain, and recurrent diarrhœa. A bacteriological examination showed an infection of pyocyaneus.[4] A vaccine was used; the bowel disurtbances stopped and the asthma symptoms promptly stopped also. (Personally communicated: Dr. John Matthews.)

This case suggests that bronchial asthma is a regional subdivision of bacterial asthma, and that spasmodic asthma had better be classed as asthma of unknown origin. It may be an undetected case of any one or more of the toxic idiopathies described or to be described here, but it may, no doubt, be due to some unsuspected air-borne irritant, such as the emanations or the spores from moulds—an idea which some cases suggest.

With an unknown irritant one cannot make experiments to prove specificity, but from the symptoms and, above all, from the heredity we must class spasmodic asthma as one of the toxic idiopathies; it remains to make it an asthma of *known* origin.

This was very much the stage the subject had reached before the war when the work had to be dropped. But in the United States of America much valuable work continued on bronchitis, hay fever, and, in particular, on food idiosyncrasies; these are frequently grouped together under the name anaphylaxies.[5] After the war I was anxious to see if my collections of hay fever and other toxic idiopathy cases suffered from any particular food idiosyncrasies. They did, giving quite surprising tales, of which a few examples will suffice to give the clinical picture and show that these disabilities are by no means trivial or "just fads and imagination."

"F_6."—The male ancestor in Diagram 9 was a remarkably healthy man, but apples always upset him. On his honeymoon his wife, after the manner of Eve, persuaded him to eat one; he spent the next 12 hours with violent vomiting and diarrhœa.

"HF F_5."—One of the grand-daughters in Diagram 13 could never since childhood tolerate a trace of honey. After many years' abstinence she took half a teaspoonful as an experiment. Within seven minutes she "came over all queer," and made her way as best she could to her bedroom, where she was found unconscious on the floor. She, too, spent the rest of the day with vomiting and diarrhœa. She gives the cutaneo-reaction as in Diagram 3, either with direct honey or with the trace of proteid precipitable from honey solution.

"F_2," the mother of the last example in Diagram 13, used to be sensitive to eggs, coming out in urticarial rashes whenever they were eaten. She has gradually accustomed herself to them, but remains sensitive to the rarer duck's egg. This is corroborated by a strong positive reaction with duck's egg proteid and no reaction with that of hen's egg.

"F_9," in Diagram 12, vomited so uncontrollably when put on cow's milk that, to save his life, he had to be given ass's milk. If he had chanced to be horse sensitive, Diagram 8 suggests that the change of dietary would have been jumping out of the frying pan into the fire.

A girl of 9 has all her life suffered from very bad "spasmodic asthma" accompanying the slight bronchitis which she occasionally had. A streptococcus vaccine was made, but gave little or no relief. A somewhat confused story of delicacy of digestion and tendency to dysentery (when one has had it all one's life one cannot describe nausea) led to skin reaction tests which disclosed a large number of sensitivenesses, amongst them to horse and to hen feather, but most pronounced of all were the reactions to the various flours; strongly to wheat and barley, and very strong to pea, bean, and lentil flour.

The *symptoms* fall into line with those of toxic idiopathies in general, closely resembling what we have seen to follow from pollen, horse meat, or a bacterial infection in the intestines of persons with those particular sensitivenesses. The constitutional troubles—depression, asthma, urticaria, &c.—follow along the same lines too, and one gets ophthalmo- and cutaneo-reactions precisely like those shown in Diagrams 2 and 3.

The *specificity* of the particular irritant for the patient and the patient for that particular irritant is as exact as with, say, hay fever or cat asthma.

Heredity is frequently found to the same food sensitiveness, but more often the food sensitivenesses vary in a family. Common inheritance, together with all the other toxic idiopathies, is seen from the diagrams where "F" denotes some food idiosyncrasy and the number following it denotes the particular food.

Before leaving these food idiosyncrasies some general considerations are worth while. They vary in intensity from a shock producing coma down to a hardly noticeable malaise, and when slight they are usually not detected. Frequently one gets without leading questions the history of "delicate digestion" or of being "faddy about food" from hay fever patients, which turn out to be quite well marked but unsuspected food idiosyncrasies. Another difficulty, both in the general diagnosis of a food idiosyncrasy and in specific diagnosis of the particular irritant, is that the reactions are frequently delayed, both in the natural disorder and in the diagnostic cutaneo-reaction; the delay may sometimes extend from, say, 10 minutes up to as long as 14 hours or longer (this delay also sometimes takes place with the bacterial cutaneo-reactions). So food idiosyncrasies often are unsuscepted. Therefore in an anomalous case of dyspepsia it would be well to look for a family history of toxic idiopathies of any type. If the patient comes of a family so tainted, then the so-called dyspepsia may well chance to be a food idiosyncrasy.

[3] One may get this bacterial cutaneo-reaction in cases of bacterial intoxication—e.g., a bad case of pyorrhœa—which do not have symptoms of asthma, urticaria, &c. It is believed that such symptoms would have been produced if the patient had had the toxic idiopathy taint, but may get rheumatism or gout instead if the diatheses happen to be in this direction.

[4] This organism is frequently much more pathogenic than the text-books allow.

[5] The use of this term would seem to be unfortunate, since the phenomena of the toxic idiopathies do not fall into line with those of anaphylaxy as demonstrable on a guinea-pig. "Anaphylaxy" has grown so protean nowadays as to cover almost any untoward biological reaction, and, therefore, when used so loosely, explains nothing.

Another point worth comment is that food idiosyncrasies are most frequent in childhood. From the day the child is weaned he is constantly meeting new proteid substances in the form of food; and, as a rule, children have an instinctive dislike to new foods or foods prepared in unrecognised ways. Possibly any new type of food requires an immunising effort on the part of the recipient to make that food wholesome, and any failure to so immunise would produce a food idiosyncrasy. Under the eye of a stern parent intent on seeing that the "children are not faddy" and that "good food is not wasted," the dislike and difficulty is soon got over with normal children.

One point of special interest is suggested by one of our examples given above; it must be well worth while to test the cutaneo-reactions of persistently vomiting babies for a milk sensitiveness. Some of the patent foods may work well in exceptional cases for this reason (a case of a child who could tolerate egg substitutes but not egg itself is instructive). In a thesis by L. De May for the University of Lyons 32 cases of uncontrollable vomiting and diarrhœa of infants were successfully treated by subcutaneous injections of cow's milk to produce "anti-anaphylaxis after the method of Besredka."

Worms.

Many other curious sensitivenesses to foreign proteids must apparently be included amongst the toxic idiopathies, but I must be brief. There is, for example, the fact that worms when handled or dissected for some time give all the nasal and eye symptoms of an air-borne toxic idiopathy; and occasionally one finds that children with intestinal worms, who happen also to be of the toxic idiopathy taint, apparently have asthma as a consequence and lose the asthma after the removal of the worms.

Insect Bites.

The bites and stings of animals are another occasion when small quantities of foreign proteid come into intimate contact with our tissues; and it does seem as if people of the toxic idiopathy taint sometimes give much stronger reactions to the bites of fleas or gnats than the normal person does. I am tempted to give a case in point.

Clewes, of Buffalo, U.S.A., who first introduced the use of a pollen vaccine for hay fever into America, told me when recounting his success that the most successful inoculation he had ever given was to a lady who had a house on the borders of Lake Erie. She was being inoculated at the time for hay fever, but was so sensitive to the bites of small gnats from the lake that one single bite, which would hardly have been felt by the normal individual, would cause such great swelling as to send her to bed for days. Clewes got a number of these gnats collected, brayed them in a mortar, and made a vaccine therefrom. After several inoculations the patient could lie out in a hammock at the edge of the lake and be bitten with pleasure.

This sounds a tall story, but she was hay-fever tainted, and if the bites and stings of insects can give rise to toxic idiopathies with people of the correct sensitiveness then it is quite understandable.

CONCLUSION.

I hope I have made it clear that all these apparently diverse affections are linked together in an extraordinary way by (1) their selectiveness; (2) by the symptom complexes; and (3) by heredity. This is worth doing for several reasons. First of all, the very fact of the connexion, and still more so the connecting link if only we could discover it, must have great significance in immunology; secondly, the detection of one definite toxic idiopathy in a patient should put us on the alert to discover others; and, lastly, anything we learn about one will help us in dealing with another toxic idiopathy. This refers chiefly to treatment, for what is sauce for the goose is likely to be sauce for the gander. Excluding all the palliatives, we have choice of two treatments for all of them—(1) avoiding the particular irritant, or (2) immunising against it.

I think it might be exaggeration to say that the study of these toxic idiopathies will open a new field of medicine, but I feel confident that they throw light from a new angle across a very large field of the old medicine.

The Croonian Lectures

ON THE

PSYCHOLOGY OF THE SPECIAL SENSES AND THEIR FUNCTIONAL DISORDERS.

Delivered before the Royal College of Physicians of London, June, 1920,

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LECTURE II.*—PATHOGENESIS OF HYSTERICAL CUTANEOUS ANÆSTHESIA.

MR. PRESIDENT AND GENTLEMEN,—Like all other hysterical symptoms, each of the five classes of hysterical anæsthesia which I have described in my first lecture is the result of suggestion. In the first class, the classical form which has alone been recognised in the past, the idea that a certain area of skin is insensitive to tactile, thermal, and painful stimuli, is in the first instance unconsciously suggested to the patient by the physician who examines him. The second class, the anæsthesia which may follow a condition of stupor, is also due to hetero-suggestion, although it is preceded by anæsthesia which is neither due to organic disease nor to suggestion, but is the result of profound inattention during the stuporose period. In the remaining classes the anæsthesia is primarily organic in origin, being caused by disease or injury of the brain, spinal cord, or peripheral nerves, or by peripheral anæmia. It makes so great an impression on the patient's mind that it is perpetuated as an hysterical symptom after the organic cause has disappeared. This is, no doubt, in part a result of auto-suggestion, but it is clear that such auto-suggestion would very rarely occur if not prompted by a certain amount of unconscious hetero-suggestion on the part of the physician, whose interest in the anæsthesia attracts the patient's attention to what would otherwise be to a great extent ignored owing to the small inconvenience the anæsthesia causes compared with the associated paralysis. So impressed was Babinski [1] with the part taken by the observer in suggesting hysterical anæsthesia that he expressed his belief that the condition never occurred in the absence of such suggestion. Whilst I agree with him so far as the first class of hysterical anæsthesia is concerned, I have certainly seen cases of the third class—that caused by injury to peripheral nerves, and possibly in the fourth and fifth classes, in which any such hetero-suggestion could be excluded with certainty. Although in most of these cases hetero-suggestion undoubtedly plays the predominating part, auto-suggestion generally occurs as well, and in rare cases it is alone responsible for the production of the anæsthesia.

The next question to discuss is by what process anæsthesia develops when it has once been suggested by hetero-suggestion, auto-suggestion, or the two combined. I believe that a consideration of the second class of hysterical anæsthesia, that following stupor, affords the only satisfactory explanation. In order to feel one has to pay attention. If the whole mind is absorbed with one's thoughts, tactile and other cutaneous stimuli will not be felt. Most healthy people are aware of this from their own experience. If one is intensely interested in the occupation in which one is engaged a light touch will not be perceived, or the discomfort caused by external heat or cold or by some form of cutaneous irritation will not be felt until the mind is once more free to attend to such mundane affairs. The importance of this conception can only be fully realised by those who have had the opportunity of examining cases of stupor, such as I have described as occurring in the over-wrought soldier. The patient's mind was obviously absorbed in the contemplation of his own thoughts, which were generally painful in character, and were often so vivid that they could be correctly described as visual or auditory hallucinations.

* Lecture I. was published in THE LANCET, July 24th, 1920 (p. 16

Tickling the face or the soles of the feet, pinching or pricking the most sensitive parts of the skin, or the application of very hot or very cold objects failed to elicit the slightest sign indicating that the individual had felt anything. The conjunctiva, cornea, and nasal mucous membranes were equally insensitive, and all superficial reflexes were abolished. Inattention had resulted in anæsthesia.

When an individual accepts the suggestion that he cannot feel over a certain area of skin he withdraws his attention from this area, and he consequently no longer feels any stimuli applied to it. This conception will be more fully discussed later, when I shall show how hysterical blindness may result from not looking, as without looking it is impossible to see, and how hysterical deafness may result from not listening, as without listening it is impossible to hear. For feeling, seeing, and hearing are active processes, and require an effort of the will just as much as walking. The latter becomes automatic in process of time, but if an individual accepts the suggestion that he cannot walk, he no longer makes the active effort which is required. Without this no walking can occur, however automatic the movement may appear to be in a healthy individual. In the same way, if an individual accepts the suggestion that he cannot feel, see, or hear, he ceases to make the active effort involved in the process of attention to cutaneous, visual, or auditory impulses. To a normal man feeling, seeing, and hearing appear to be the result of cutaneous, visual, and auditory stimuli, respectively acting upon the skin, eyes, and ears; but this is only true if he is actually attending, although this active attention is as little a conscious process as the performance of the individual movements in walking.

A study of the behaviour of the cutaneous reflexes in hysteria will show that an anatomical basis for hysterical anæsthesia must exist, which depends upon the removal of the structural foundation of the psychological process of attention. A reflex is the automatic response to a peripheral stimulus, and is entirely independent of consciousness. It is thus inconceivable that a reflex could be abolished unless some alteration had occurred in the structures which control the reflex arc. The abolition of a cutaneous reflex in organic disease, is, for example, regarded as a proof of the existence of a lesion interfering with these structures. Apart from the abolition of the plantar reflex, when the feet have become cold owing to the feeble circulation caused by disuse in hysterical paraplegia, superficial reflexes are only diminished in activity or entirely abolished in hysteria in the rare cases of hysterical anæsthesia in which sensibility is almost or completely absent. In the exceptional cases of total anæsthesia the corresponding superficial reflexes are lost, just as all superficial reflexes are lost in the total anæsthesia present in severe stupor. Recovery from total hysterical anæsthesia, either spontaneously or as a result of treatment, is accompanied by a return of the superficial reflexes, just as they return when a condition of stupor passes away.

The simplest explanation of the behaviour of the superficial reflexes in hysterical anæsthesia is that the structural basis of the psychological act of attention consists in some change which leads to a diminution in the resistance offered at each synapsis of the sensory tract. Perhaps this is in the nature of a throwing out of dendrites, or it may depend upon some biochemical change in the material which occupies the space between the dendritic terminations of adjacent neurones. Whatever it may be, the increased resistance which is present when attention is very deficient results in anæsthesia, and at the same time a block is produced in the reflex arc which results in diminution or abolition of the reflex.

The usual method of treating hysterical anæsthesia by means of a strong faradic current depends upon the fact that the anæsthesia, however severe, is very rarely absolute. A very powerful stimulus, such as that afforded by a strong faradic current applied with a wire brush, can break through the increased resistance at the synapses in the sensory tract in spite of the almost complete inattention which is present; it is consequently felt. Directly this occurs the patient's dormant attention is awakened; with a little persuasion and perhaps some explanatory conversation, which may be looked upon as acting, at any rate in part, as a counter-suggestion to the original suggestion of anæsthesia, the patient is quickly brought to attend to the stimuli affecting the previously anæsthetic areas of his skin, and normal sensibility returns.

If the anæsthesia is absolute this method cannot be used, as, however strong the painful stimulus may be, it will not be felt. In such a case it may be suggested to the patient that the faradisation of the skin at the boundary of the anæsthetic area will lead to the progressive retraction of this area. The most satisfactory method, however, is to use no suggestion at all, but to explain to the patient why he cannot feel—that he has become accustomed to pay no attention to stimuli affecting the anæsthetic area, but that if he will concentrate his attention on this area sensation will return. When the individual understands what he has to do, recovery of normal sensibility at once returns, and with the return of normal attention the abnormal resistance at the synapses disappears and the abolished cutaneous reflexes reappear.

THE SUPERFICIAL REFLEXES IN HYSTERIA.

There has been much controversy about the behaviour of the superficial reflexes in hysteria. Differences of opinion are in part due to insufficient knowledge as to the normal variations in the reflex under different physical conditions. My investigation on these subjects have been made principally in connexion with the abdominal reflex, but I shall also refer to some observations on the plantar reflex.

The Abdominal Reflex.

Authorities differ as to the frequency with which the abdominal reflex may be absent in normal individuals. A recent investigation by Söderbergh [3] on 700 normal individuals between the ages of 2 and 68 shows, however, that in favourable conditions it can almost invariably be obtained. It is important to adopt a proper method of examination before concluding that it is absent. It is particularly difficult to detect in individuals with much subcutaneous fat or flabby abdominal muscles. It is necessary to watch both for visible muscular contraction and for displacement of the umbilicus or middle line. The epigastric, upper, middle, and lower abdominal reflexes should be successively tested. The skin is lightly and rapidly stroked, and care is taken to observe the response to the *first* stimulus, as in many cases the reflex rapidly disappears on repetition. As the cause of this disappearance does not seem to have been investigated, I recently carried out some observations, with the help of Dr. W. Johnson and Dr. E. J. Wood, in order to determine the effect of varying physical conditions on the abdominal reflex in normal men.

The first problem to decide was whether the diminution in strength of the reflex on repetition is, as is generally supposed, the result of fatigue or whether it is due to some accidental coincident condition, such as the cooling of the skin which must follow exposure to the air. The latter proved to be the more important factor. In a man who showed an unusually brisk reflex when his abdomen was first exposed no reflex could be obtained after an interval of five minutes, the surface temperature of the skin having fallen from 33·6° to 31° C. in the interval. In a second case the skin on the left side of the abdomen only was exposed; measuring the reflex on a numerical basis from 0 to a maximum response of 6, it was found when tested at intervals of a minute to fall gradually from 3 to 1 at the end of the eighth minute, the surface temperature having fallen from 33·5° to 28° C. On now exposing the whole abdomen the reflex on the right side was found to be still 3 and the temperature 33·5° C.

The effect of the temperature of the skin was confirmed by comparing the reflex obtained on the two sides after one had been artificially warmed or cooled. The warmer side always had the brisker reflex. When the temperature of the two sides became gradually more equal as a result of exposure, the reflexes also became more nearly equal. Some inequality was still observed in one case with a difference of surface temperature as small as 1° C., though when it had fallen to 0·4° C. the reflexes were equal, but in another no definite difference could be seen after the temperature of the skin on the side which had been cooled had risen to within 2·5° C. of the other.

It is clear from these experiments that no accurate observations as to the effect of fatigue can be made until the temperature of the skin has fallen to a constant level, as otherwise it would be impossible to separate the effect of cooling from that of fatigue. When the temperature is constant we found that fatigue is only of importance if the skin is stimulated along exactly the same line on each occasion. If care is taken to stimulate different lines on each occasion there is no fatigue effect, however near the lines may be. But in the former case the effect of fatigue is very obvious.

In one experiment the temperature and reflex having fallen as a result of exposure from 35° to 30° C., and from 6 to 4 respectively, and then remained perfectly constant for a quarter of an hour, the reflex completely disappeared at the thirty-seventh stroke repeated along a line 2½ inches

long in a period of 35 seconds. The reflex was, however, still as brisk as ever when tested on a line of equal length half an inch away on each side. It is clear, therefore, that the fatigue takes place in the peripheral sense organs and not in the reflex centre in the spinal cord. Although the effect of fall of temperature is always well marked, that due to fatigue may be very slight or even absent. Thus in one experiment no diminution in the response occurred after 35 repetitions along exactly the same line in the course of a minute.

The condition of the bladder was found to exert an unexpected influence on the reflex. In a boy whose bladder was filled to an extent that made him desire to micturate no abdominal reflex could be obtained, but directly he had passed 8 oz. of urine a brisk reflex was obtained.

In rare instances we observed variations in the reflex which we could not explain; thus a previously brisk reflex was occasionally found to have almost or completely disappeared after a short interval, though there had been no exposure and the bladder was empty.

Inequality of the reflexes on the two sides of the abdomen is often regarded as evidence of organic disease. But before any conclusion can be drawn it is clear that care must be taken to ascertain whether the surface temperature is approximately equal on the two sides. A patient who had been lying on one side with the lower side in contact with a hot bottle, or one in whom the bedclothes had been carelessly raised during the examination so as at first to expose one side only, would certainly have unequal abdominal reflexes, which might easily be regarded as of pathological significance, though really due to nothing more than the unequal temperature of the skin on the two sides.

Strümpell and Oppenheim regard the loss of the reflex as a valuable sign in early disseminated sclerosis; its almost constant presence in normal individuals makes its absence in doubtful cases distinctly important, but only as a confirmatory sign, as it is very rarely lost before other more conclusive evidence of lateral column disease, especially an extensor plantar reflex, is present. In a series of 50 cases of disseminated sclerosis examined with Dr. Johnson at Guy's Hospital in 1912,[4] we found that it was absent in 80 per cent., the plantar reflex being extensor in 82 per cent. on both sides and in 4 per cent. additional cases on one side. In future it will be advisable to warm the skin over the abdomen with a hot bottle, and to see that the bladder is empty before concluding that the abdominal reflexes are really abolished.

As in rare cases it is impossible to obtain one or both of the abdominal reflexes although the plantar reflexes are normal, it is very important to know whether the reflexes can be lost or become unequal in hysteria. Babinski has laid it down as a definite law that hysteria never leads to any alteration in the cutaneous or deep reflexes, and the majority of authors agree with him. Thus Williamson has recently emphasised the fact that the reflexes are never affected in hysteria as an aid in diagnosing hysterical from organic anæsthesia. A few writers have, however, expressed doubt on the question, and the following clinical and experimental observations prove conclusively that under certain conditions the abdominal reflexes may be unequal or lost in hysteria.

I have already described the case of Pte. M., the patient who had for nearly two years such complete anæsthesia and analgesia of his skin that no stimulus of any kind, including the strongest faradic current, produced the slightest sensation. The tone of the abdominal muscles was good, the patient was thin, and examinations were made repeatedly over a period of many months under varying conditions, but no abdominal reflex was ever obtained. When at last the patient began to use his left hand an attempt was made to restore sensation on the left side of his body by the application of a very strong faradic current with a wire brush. After several futile attempts the patient could at length just feel the stimulus on the left side, but the right side was still totally anæsthetic, and no smaller stimulus produced any sensation on the left side. The same day a definite abdominal reflex was for the first time obtained on the left side, but not on the right side. As sensibility gradually improved the left abdominal reflex became brisker. After several weeks had elapsed, the patient being now able to walk, cutaneous sensibility over the whole body very gradually reappeared without any special treatment. The right abdominal reflex was now obtainable, but it was very much weaker than the left, corresponding with the greater degree of anæsthesia.

We have thus in a single case an example of hysterical anæsthesia associated at one stage with complete bilateral loss of abdominal reflexes and at another with marked inequality of the reflexes of the two sides.

In 1907[2] I made several observations on anæsthesia purposely induced by suggestion in the waking state on patients suffering from hysterical paralysis. In a few cases I succeeded in producing a very profound hemianæsthesia on the paralysed side, and in these cases the abdominal reflex on the anæsthetic side was weaker than on the other side, and occasionally it was lost, although at the beginning of the experiment the reflexes were normal. When as a result of counter-suggestion the anæsthesia disappeared the reflex reappeared.

In these investigations a change in the reflex was only observed when the anæsthesia was very profound, and, corresponding with this, in the only case of hysteria I have seen in which the abdominal reflexes were affected when the patient first came under my observation, the anæsthesia was complete.

The Plantar Reflex.

The plantar reflex is affected by temperature in exactly the same way as the abdominal reflex, but as the feet are more liable to become cold than the skin over the abdomen the influence of temperature is of still greater importance. It is well known that absence of the plantar reflex is most commonly due to cold, and that a reflex which cannot be elicited at first may be obtained with more or less ease after restoring the circulation by exercise or the application of warmth. By noting the surface temperature we found that as it steadily fell on exposure the reflex became less brisk and finally disappeared. A very slight fall of surface temperature may be sufficient to produce a remarkable alteration in reflex activity; thus a moderately brisk reflex, tested at intervals of 60 seconds, became gradually weaker, and finally disappeared at the end of the fifth minute, the surface temperature having fallen only 2°—from 28° to 26° C.

The diminution and loss of the reflex occurs pari passu with the diminution in cutaneous sensibility, which is produced, as I have already pointed out, by the peripheral anæmia, caused by cold. The loss of the reflex is clearly due to the deficiency of the afferent impulses from the skin, which, under normal conditions, give rise simultaneously to the sensation of touch and to the plantar reflex. Apart from the cold feet from which healthy individuals suffer, the disuse resulting from paralysis, whether organic or hysterical in nature, is accompanied by diminished circulation and consequent cooling of the surface, with loss of the plantar reflex.

In the case I have already described of universal hysterical anæsthesia following stupor the plantar reflexes were, like all the other superficial reflexes, absent. On two occasions I exposed the patient's feet while he was asleep. Stroking the soles produced a brisk reflex, and he woke up at the same moment, having apparently felt the touch in his sleep. The return of sensibility in sleep was thus accompanied by return of the corresponding reflex. Immediately afterwards it was found that complete anæsthesia had returned and no reflex could be obtained. When many months later he recovered from his paraplegia the anæsthesia slowly but spontaneously disappeared, and at the same time the reflexes could once more be elicited.

It is clear, therefore, that profound hysterical anæsthesia of the sole of the foot may be accompanied by loss of the plantar reflex. This is quite independent of any change in the surface temperature, and must therefore be distinguished from the much more common loss of the plantar reflex caused by the coldness of the feet in hysterical paraplegia. In the absence of profound hysterical anæsthesia the reflex in these cases returns on warming the feet, just as it does in organic paraplegia if it cannot at first be obtained.

SENSIBILITY OF MUCOUS MEMBRANES.

(a) Conjunctival and Corneal Anæsthesia and Reflexes.

In a later lecture I shall refer to the historical case of Madame Stapart, who was cured of hysterical blindness of ten years' duration by a supposed miracle in 1728. The contemporary description of her case shows that the blindness which affected her left eye was accompanied by complete anæsthesia of the cornea, conjunctiva, and eyelids, with loss of the corneal and conjunctival reflexes, as the finger could be inserted between the lids without producing any sensation or movement. Directly she was cured sensibility returned together with the associated reflexes.

A similar anæsthesia was described by Charcot and others in association with hysterical blindness and more frequently with unilateral narrowing of the field of vision, the whole being part of a more or less complete hemi-anæsthesia. But none of the numerous patients with hysterical blindness whom I observed during the war complained spontaneously of any loss of sensibility of the eyeball or eyelids, and none showed any evidence of the inflammation which is liable to follow injury of an eye which has become anæsthetic as the result of an organic lesion, such as follows the treatment of

trigeminal neuralgia by injections of alcohol or removal of the Gasserian ganglion. In a small number of my cases, however, anæsthesia was discovered on careful examination. I believe that in these cases the anæsthesia was produced by unconscious suggestion on the part of the observer, as when great care was taken to avoid any possibility of this, no anæsthesia was found. A patient with one blind eye is likely to think that the eyeball will also be insensitive to touch if his attention is drawn to the subject, and he will probably include the eyelids in his conception of the eye as a whole, so that they too will become anæsthetic.

In every case in which I have observed hysterical anæsthesia of the conjunctiva and cornea, the corresponding reflexes have been absent and have returned with recovery of sensibility, the association being of exactly the same nature as that observed between cutaneous anæsthesia and loss of reflexes.

In the case of universal and absolute cutaneous anæsthesia following stupor, which I have already described, there was total loss of sensibility of the cornea and conjunctiva of both sides, although central vision at any rate was not affected. This case afforded a good opportunity of watching over a long period the slow restoration of sensibility and of corneal and conjunctival reflexes occurring pari passu.

(*b*) *Pharyngeal Anæsthesia.*

Pharyngeal anæsthesia appears to have been first described as a symptom of hysteria in 1872 by Anstie.[5] "Anæsthesia is very often found when looked for," he wrote, "in one situation where its presence is highly characteristic—the back of the pharynx. If a patient, not taking bromide, can, without retching, let you pass the finger well down to the epiglottis, the diagnosis of hysteria is exceedingly probable." The qualification concerning bromides was thought necessary on account of the observation of Huette in 1850 that the pharynx becomes anæsthetic and the pharyngeal and palatal reflexes disappear in patients taking bromide, an observation which has prompted many physicians to give the drug to patients before examining them with the pharyngoscope since the procedure was first suggested in 1867 by Gasselin. It can, however, be of little or no real value, as Krosz found in 1876 that it required an enormous dose, such as between 125 and 150 gr. taken at one time to abolish the pharyngeal reflexes, 100 gr. never being sufficient. My own observations also show that the supposed effect of bromide on the pharynx, which has been copied from book to book, is non-existent, as careful measurement of the pharyngeal excitability in ten cases of epilepsy before receiving bromide and after taking between 45 and 80 gr. a day, often for several weeks, in no single case produced any alteration.

The question is not merely of theoretical interest, as during the last few years I have seen many cases diagnosed as hysterical on account of the presence of pharyngeal anæsthesia. One neurotic young woman barely escaped with her life, because the discovery of pharyngeal anæsthesia led her physician to diagnose an attack of abdominal pain as hysterical in origin, although the delayed operation showed she was suffering from acute appendicitis. The presence of pharyngeal anæsthesia has often been mentioned in reports on war neuroses as an indication of their hysterical nature. It is clear, therefore, that the time has come to decide what value can be placed upon this supposed stigma of hysteria.

With the aid of Captain E. A. Peters and Major J. L. M. Symns, I[6] first drew up a scale of pharyngeal sensibility, beginning with 0, which indicates complete anæsthesia, and 1, which indicates deficient sensibility and absence of all pharyngeal reflexes, and passing up to 7, which indicates such an extreme degree of hyperæsthesia and such violent reflex spasms that it is quite impossible to examine the throat. After a few days' practice we found our standards were so definite that we always indicated the sensibility in a given case, examined independently, either by the same number or occasionally by numbers differing by one, but never by more. We then systematically recorded the sensibility in a large number of men, some healthy, some suffering from a great variety of surgical and medical conditions, and others from definite hysterical symptoms, the nature of which was always finally confirmed by their cure by means of psychotherapy. We made our examination without indicating to the patient what object we had in view. He was told to open his mouth, and the back of the pharynx and soft palate was then touched with some blunt object, the tongue being depressed when necessary. In the rare cases in which no reflex was produced the man was asked what he had felt during the examination. The accompanying curves show the pharyngeal sensibility in 170 individuals with no hysterical symptoms and 64 with hysterical symptoms. A third curve shows separately the cases of hysterical aphonia and mutism, which are also included in the second. We have analysed these, because it is often asserted that pharyngeal anæsthesia is particularly well marked in hysterical aphonia, just as hysterical anæsthesia is said—quite erroneously—to occur in the external ear in hysterical deafness, in the cornea, conjunctiva, and eyelids in hysterical blindness, and so on, assertions which we have found to have not the slightest foundation in fact.

Three Graphs to Illustrate Pharyngeal Sensibility in Hysteria.

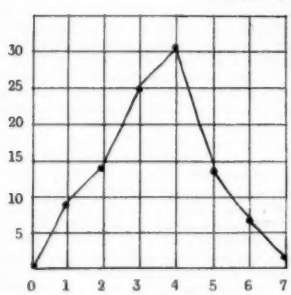

FIG. 1.—170 cases with no hysterical symptoms.

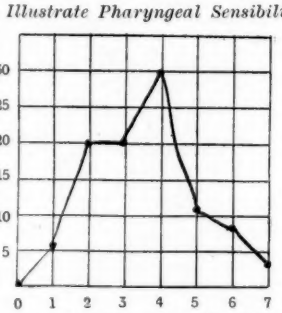

FIG. 2.—64 cases with hysterical symptoms.

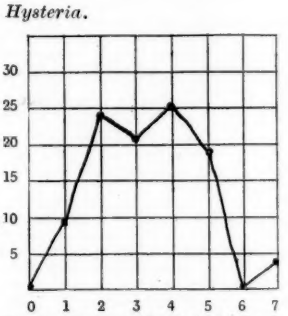

FIG. 3.—34 cases of hysterical aphonia or mutism.

Percentage of cases is given at the left and degree of sensibility at the foot of each chart.

In several cases of hysterical aphonia, as well as of other hysterical symptoms, it was found that the pharyngeal excitability remained unaltered after a cure had been obtained. The single case in which complete pharyngeal anæsthesia was present was that of a stolid individual, convalescent from neurasthenia due to simple exhaustion. He had had no hysterical symptoms and there was no history of hysterical manifestations in the past.

These figures show conclusively that pharyngeal sensibility is no more deficient in individuals suffering from hysterical aphonia or other hysterical symptoms, such as paralysis, contractures, fits, blindness, or deafness, than in individuals who neither are suffering nor have ever suffered in this way, and varies in a similar manner in different people. When care is taken to avoid suggestion, complete pharyngeal anæsthesia is hardly ever found, and the comparatively rare absence of reflexes is met with in normal people just as often as in patients with hysterical symptoms. Curiously enough, in the only example of organic disease in a series of 100 consecutive cases of aphonia in soldiers,[7] laryngoscopic examination was unusually easy owing to the extremely slight degree of pharyngeal sensibility. If pharyngeal anæsthesia had been taken as a sign of any value it would thus often have led to erroneous diagnosis.

These investigations were all made on soldiers, but I carried out a similar investigation on a large number of patients at Guy's Hospital a few years ago and obtained precisely similar results, although about half of the non-hysterical patients and nearly all the hysterical ones were

women. Unfortunately, the exact figures have been lost, but they did not differ in any way from the present series.

We may thus conclude that pharyngeal anæsthesia is not a stigma of hysteria, and that when it is habitually found by a given observer it must be produced in the majority of the cases by involuntary suggestion on his part. As most patients suffering from hysterical symptoms are abnormally suggestible, it is more likely to be found by careless examination in such individuals than in others. As many individuals suffering from organic disease are equally suggestible, pharyngeal anæsthesia may easily be produced in them. Conversely, in the not uncommon cases seen under the peculiar conditions of modern warfare, in which hysterical symptoms developed as a result of an overwhelmingly powerful suggestion in men who were not abnormally suggestible, pharyngeal anæsthesia would not be produced by careless examination, and the hysterical nature of the symptoms might be doubted if any importance were attributed to pharyngeal anæsthesia as a stigma of hysteria.

In order to explain the frequently repeated assertion that laryngoscopic examinations are particularly easy to make inpatients with hysterical aphonia, it must be remembered that about 25 per cent. of patients suffering from aphonia or other hysterical symptoms have, like a similar proportion of normal individuals, a comparatively insensitive pharynx (1 or 2 in our scale). The insensibility would not be remarked upon in a normal individual; but its association with hysterical symptoms would at once strike an observer who had been taught to regard pharyngeal anæsthesia as a stigma of hysteria, and the one case confirming this would make more impression on his mind than the three in which the pharynx was more sensitive. Moreover, our observations show how easily pharyngeal anæsthesia is produced by suggestion, and a few words of encouragement by the observer would be enough in many cases to render a previously sensitive pharynx insensitive, although the observer might have no notion that his words would have any such effect. In most individuals the pharyngeal sensibility remains unaltered on repeated examination, but in abnormally suggestible men, whether they are actually suffering from hysterical symptoms or not, we have frequently been able to reduce the sensibility from 3, 4, or 5 to 1 or 2 by direct suggestion.

(c) *Rectal Anæsthesia.*

The only other mucous membrane which requires brief consideration is that of the rectum, as numerous French writers, ever since Gendrin first referred to the condition in 1846, have regarded anæsthesia of the rectal mucous membrane as a cause of constipation. It is curious that not one of them should have taken the trouble to investigate the sensibility of the rectum in normal individuals. In my Goulstonian lectures on the Sensibility of the Alimentary Canal I described how I had found that the mucous membrane of the rectum is totally insensitive to tactile, thermal, and painful stimuli, so that whatever importance deficient sensibility of the muscular coat of the rectum may have in the production of dyschezia, anæsthesia of the mucous membrane is the normal condition, and neither a result of hysteria nor a cause of constipation.

CUTANEOUS HYPERÆSTHESIA.

If the view be accepted that the physical basis of attention to sensory stimuli is a diminished resistance at the synapses in the sensory tract involved, and that hysterical anæsthesia with the corresponding loss of reflexes is caused by inattention, it is easy to explain the occurrence of hysterical hyperæsthesia. When for any reason an individual's attention is fixed to an abnormal degree on sensations coming from a certain area of skin, the resistance at the synapses in the tract conveying impulses from this area to the brain is diminished to a greater extent than under normal conditions. It may be supposed that whilst ordinary attention results in a considerable degree of approximation of the dendrites of adjacent neurones at each synapsis, the excessive attention in hysterical hyperæsthesia results is still greater approximation owing to the extreme degree of projection of the dendritic terminations. Whereas the abnormally great resistance at the synapses in hysterical anæsthesia results in diminution or loss of the corresponding reflexes, the abnormally small resistance at the synapses in hysterical hyperæsthesia results in their exaggeration.

I do not propose to discuss the causes of hysterical hyperæsthesia at any length. But I should like to draw attention to the frequency with which cutaneous hyperæsthesia results from unconscious hetero-suggestion on the part of the observer in exactly the same way that hysterical anæsthesia so often arises. This is seen most frequently in connexion with the areas of cutaneous hyperæsthesia which are supposed to occur in association with visceral disease.

In my first enthusiasm for the brilliant investigations on the subject by Head, which I read as a student in 1903, I found that I could confirm his observations in every case which I examined. Being particularly interested in the cutaneous hyperæsthesia associated with digestive disorders, I acquired the habit of mapping out Head's area in every case diagnosed as ulcer and watching its retraction from day to day as improvement occurred until it finally disappeared, when it was assumed that the ulcer had healed. My first doubt on the subject arose when I had the opportunity in 1909 of seeing ten patients operated on by Moynihan for duodenal ulcer. I had examined them with great care the previous day and I had entirely failed to find any cutaneous hyperæsthesia, but the ulcer was none the less demonstrated in nine out of ten of the cases at the operation. From that time I have never been able to find any evidence of cutaneous hyperæsthesia in cases of gastric or duodenal ulcer, although I have repeatedly searched for it. Whereas the majority of my earlier cases had occurred among highly suggestible, chlorotic girls, who had up to that time been regarded by most physicians as particularly subject to gastric ulcer, Moynihan's patients were mostly middle-aged phlegmatic Yorkshiremen. With greater knowledge of the symptoms of ulcer and of the conditions which simulate it, and improved accessory methods of diagnosis with the aid of the X rays and chemical examination of the gastric contents and fæces, it has become recognised that chronic ulcers are comparatively rare among chlorotic girls, the very people who were formerly supposed to be most subject to them and in whom hyperæsthesia would be most easily suggested. In examining for hyperæsthesia it must be remembered that, unless the greatest care is taken to avoid the possibility of suggestion, it is very easy to produce hyperæsthesia in the area in which it is expected. When improvement occurs under treatment both the physician and patient expect the area to become smaller, and so indeed it does, but not as a result of the healing of the ulcer, but of the physician's hetero- and the patient's auto-suggestion. I have now many times suggested an area of hyperæsthesia away, replaced it by anæsthesia, or transferred it to the opposite side, after it had been carefully marked out by one of my clinical clerks. I have no doubt that the areas of hyperæsthesia had been suggested, just as I had suggested similar areas before I learnt how to avoid doing so.

I do not mean that Head's areas are always the product of suggestion on the part of an observer, looking for hyperæsthesia in a certain zone in a patient who is unduly open to suggestions of the kind owing to abnormal suggestibility and to the presence of symptoms, such as pain, which draw his attention to the area as the probable seat of disease. But I believe that they occur so rarely in diseases of the œsophagus, stomach, intestine, liver, and pancreas as to be of no diagnostic value. Only in diseases of the kidney, which lead to distension of the pelvis, does true cutaneous hyperæsthesia appear to be of some frequency; but even in these conditions the areas of skin involved are much less constant than is often supposed.

It is interesting to note that when these areas of cutaneous hyperæsthesia, unconsciously suggested in the way I have described, are unilateral, the abdominal reflex obtained from the suggested area is brisker than that on the other side, confirming the view I have advanced of the physical basis of hysterical hyperæsthesia. The reflex becomes normal once more when the hyperæsthetic area disappears as a result of suggestion.

HYSTERICAL PAIN.

It is a matter of common experience that pain is increased by attention and diminished by inattention. In all probability individual variations in sensibility to pain depend largely upon the varying ease with which the attention can be diverted by an effort of will from the seat of pain. The anatomical basis I have suggested as an explanation of variations in cutaneous sensibility

to tactile stimuli can probably be extended to explain variations in sensibility to pain. In this connexion I have already referred to the hysterical analgesia which is often associated with hysterical anæsthesia. In the converse condition an individual may be unusually sensitive to pain owing to his inherited mental characteristics, or he may become so owing to exhaustion, insomnia, and sepsis, and the demoralisation which prolonged and excessive pain may induce. This acquired sensibility to pain was comparatively common in soldiers. A man may train himself to such an extent to feel pain that the diminished resistance at the synapses in the tract conveying painful impulses to the brain may persist after the primary cause of pain has been removed. The persistent pain is hysterical, being suggested by the original organic pain, and being curable by psychotherapy.

A patient may continue to feel pain after his diseased appendix has been removed as the result of very slight painful impulses produced in the deep tissues and scar, which an average individual would ignore. The following is one of several cases of the kind which I have observed both in soldiers and civilians.

Hysterical pain following appendicectomy cured by psychotherapy.—Pte. G., aged 24, had had over two years' active service in France and Italy when he developed an acute attack of appendicitis on July 6th, 1918. He was operated upon the same night, two tubes being inserted. He was transferred to a hospital in England, and was allowed to get up on August 16th. Since then he had had constant sharp pain in the region of the scar. He was sent to his depôt and told that the pain would go in time. He was given clerical work, but could not do it, and was transferred to Seale Hayne Hospital under Captain S. H. Wilkinson on Dec. 21st, 1918. He complained of constant pain in the region of the scar, especially when in bed. In a long therapeutic conversation it was explained to him that the original pain had made a great impression on his mind, because at the time he was physically and mentally tired from constant active service for over two years; in spite of the fact that the cause of the pain had gone, his mind had got so accustomed to feeling the pain that he continued to feel it. The pain disappeared completely, and two days later he was given work on the farm. There had been no return of pain when he was discharged a month later.

The pain felt in the scars of wounds long after they have healed is, I believe, in many instances of the same nature. It has generally been ascribed to nerve fibres becoming involved in scar tissue, but nothing abnormal may be found at operation, or complete excision of the scar may produce no improvement, the pain persisting in the new scar. We saw numerous cases of this kind, which were often associated with hysterical paralysis or contracture, in which severe pain was rapidly cured by psychotherapy.

It is generally assumed that the headache following the explosion of a shell in the immediate neighbourhood, especially if consciousness was lost, is due to concussion. If this is correct, so-called "shell shock headache" is of exactly the same nature as the headache which follows concussion in civil life. It is well known that the most effective treatment of the latter is rest, but that if insufficient rest is taken in the earliest stage the headache is likely to be prolonged for an indefinite period. This has proved to be the case in "shell shock headache," and all who have had such cases under their care must have been struck by the extreme difficulty of relieving the headache by ordinary means. The analgesic drugs, which give at any rate temporary relief for most forms of headache, are either entirely without effect or only produce a slight amelioration of the pain. If a considerable period has elapsed since the onset of the headache, during which the patient has been getting about, a renewed period of rest is generally of comparatively little use. In a number of cases we were struck by the complete relief which immediately followed a lumbar puncture, but unfortunately this was rarely permanent and often only lasted for a day or two. We were at the time unable to explain this, as the fluid was never under increased pressure, so that it did not seem possible that the improvement was due to the reduction of an abnormally high intracranial pressure.

The following case seems to give a clue to the explanation of the persistence of the headache in some of these cases:—

"Shell shock headache" cured by hypnotism.—Cpl. H. served from August, 1914, and remained well until he was blown up in November, 1917. He was away from his unit for a month on account of a stammer and tremor. He then returned to duty, but was wounded in April, 1918. He was now sent to hospital, and after six months' treatment for neurasthenia was admitted to Seale Hayne Hospital under Captain C. H. Ripman in October, 1918. He was shaky and complained of a heavy pain in the head during the day, which had been present ever since he was blown up. During the whole night he sat up in bed holding his head and crying with pain. In spite of the severity of the pain he was not inclined to make much of it during the day. He was treated with drugs, none of which had any effect. Hypnosis was consequently tried. The headaches improved at once. After the first treatment he slept through the night and he had no headache the next day. After three treatments he felt perfectly well and became one of the most lively men in the ward, having previously spent all day curled up on his bed and all night crying with pain. He was discharged a month later and wrote in February, 1919, to say that there had been no return of his headache.

In this case, in spite of the extreme severity of the headache, complete relief was produced by suggestion without any accessory factor coming into play. It is inconceivable that suggestion, by which is meant the communication of a proposition without giving adequate and logical grounds for its acceptance, could have produced such a result in a headache of organic origin. Consideration of this case points to the possibility that the relief produced in our earlier cases by lumbar puncture was due to suggestion, and the absence of any relief with ordinary analgesic drugs could be explained on the assumption that the headache was of entirely psychical origin. It is probable, therefore, that the explanation of the long-continued and intractable headache following the concussion caused by a high-explosive shell is due to the perpetuation by auto-suggestion of a headache, which is at first organic in origin and a genuine result of concussion. Being produced by suggestion and cured by psychotherapy, it can be correctly called hysterical.

The chronic headache which follows concussion in civil life is probably often of similarly hysterical origin.

Hysterical headache following concussion.—A lady, 49 years old, an artist by profession, fell on her head in February, 1917, as the result of a collision with a motor lorry whilst she was driving a dogcart. She was badly shaken, but was not rendered unconscious. Severe headache developed immediately afterwards. It persisted all day, and at night prevented her sleeping. She did not improve in spite of wearing spectacles for astigmatism and giving up painting and reading since her accident. In October, 1918, she was told that the pain was rheumatic, and was ordered a strict diet and massage for her head. After this she became terrified of cold and damp, and kept indoors almost all the time, but whenever the weather was bad the headache was much aggravated, although this had not hitherto been the case.

I saw her for the first time on March 1st, 1919, when I explained to her that the headache was simply a perpetuation of that due to the original concussion. I told her that as the effects of the latter had long ago passed away she would no longer have any headache if she ceased to expect it. I explained to her that it was clearly not due to her astigmatism, as her glasses had not helped her, and she was no better when she did not read or paint, and that the failure of her dietetic precautions and staying indoors had proved that it was not rheumatic. On my advice she gave up her glasses and began to read and paint, and she went out whatever the weather was like. I saw her a week later and she had only had one slight headache, which had come on during a rainstorm, this having been apparently again suggested by the weather. Further explanation resulted in complete disappearance of the headache in spite of taking no further precautions to prevent it. She was given no drugs, and the various medicines she had taken before both during the day and at night for her insomnia were discontinued. From the first conversation she slept perfectly well. She wrote on April 16th to say she was still free from headache.

Hysterical pain is a very real thing and cannot be distinguished from pain caused by organic disease by its character or by the absence of associated sympathetic phenomena. It may, for example, give rise to tachycardia, dilatation of the pupils, pallor, and sweating, if the original organic pain did so, because the afferent tract of the reflex paths involved offers so little resistance to impulses excited by peripheral stimuli that the latter still produce marked effects, even if they are so slight that if the patient would cease to expect pain and so allow the normal resistance to return, they would either produce no effect at all or only an insignificant amount of pain and little or no sympathetic reflexes.

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SYMPTOMLESS INFLUENZAL (STREPTOCOCCAL) MASTOIDITIS.

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THE possibility of the occurrence of a very acute mastoiditis, with few, if any, of the usual symptoms, was first brought to our notice by several cases in which the original condition was deduced by tracing back the undoubted steps of development of the complication which was the first recognisable feature. The sequelæ which we were called upon to treat in our three original cases were lateral sinus thrombosis, peri-sinus abscess, and extra-dural abscess, all three unexpectedly appearing without any of the usual signs or symptoms of mastoiditis. Fortunately, we were enabled to supplement this experience by the study of a minor epidemic of influenza, with middle-ear complications, occurring amongst the staff of a large institution in which we were able closely to watch the progress of the disease.

Noteworthy Features.

The first cases followed, almost exactly, the course of our original three, and displayed the following noteworthy features:—

1. A very acute onset of earache occurring in the second or third day of a mild influenzal attack comprising pyrexia, malaise, coryza, and pains in the trunk and limbs.

2. The upper part of the drum was generally alone affected, displaying redness and bulging from the beginning.

3. Perforation occurred early, followed by unusual hæmorrhage lasting for several days, accompanied by complete relief of all pain.

4. The posterior meatal wall became red and swollen shortly after the appearance of the discharge.

5. The discharge, at first slight, became in the second or third day profuse, coinciding probably with mastoid suppuration.

6. After perforation, other than discharge, there were no symptoms. That is to say, no pain, pyrexia, increase of pulse-rate, mastoid tenderness, or malaise.

7. On opening the mastoid, which was invariably of the pneumatic type, the chisel exposed softened, red, marrow-like bone, which showed early necrosis and absorption with the formation of large cavities full of pus. The extension was generally downwards and backwards.

8. The incomplete operation was performed in all cases, although in several the so-called "bridge" had already suffered necrosis.

9. The subsequent progress was unusually rapid and uneventful, and in no case has the hearing been appreciably affected.

10. In all cases streptococci of the hæmolytic influenzal type were found in large numbers.

Record of Cases.

To save repetition in the description of the cases we have omitted details of symptoms, onset, &c., unless they in any way diverge from the typical form as already set forth.

CLASS A.—*Comprising five cases. First seen late in the course of the disease. Complications found at operation.*

(1) Boy, aged 13. Seen three weeks after typical onset. Temperature 105° F. at night, subnormal in morning. Drum and meatal appearances as described. Slight discharge. No other symptoms. *Operation.*—Lateral sinus thrombosis. Large peri-sinus abscess. Internal jugular vein tied. Recovery after three weeks of septicæmia with normal hearing. Streptococci isolated from pus, thrombus, and blood culture.

(2) Man, aged 54. Seen seven weeks after typical onset. Discharge profuse. Drum and meatal appearances as described. Patient doing his usual work on the Stock Exchange. *Operation.*—(1) Incision of drum, no diminution of discharge. (2) Next day antrum opened. Large peri-sinus abscess extending from bend to bulb. Sinus not thrombosed. So-called "bridge" much eroded. Middle ear left intact. Uneventful recovery with normal hearing.

(3) Man, aged 62. Seen three weeks after typical onset. Discharge profuse. Signs as described. Operation refused at first as patient felt "perfectly well." *Operation.*—(1) Incision of drum. (2) Incomplete operation (four weeks from onset). Large subdural abscess. Definite area of necrosis close to promontory. Facial palsy third day after operation, disappeared one week later. Progress uneventful. Hearing normal.

(4) Girl, aged 9. Seen fourteenth day after ordinary onset. Obviously ill, with vomiting and rigors. Signs as described. Discharge profuse. No symptoms until onset of septicæmia. *Operation.*—Large peri-sinus abscess. No apparent thrombosis. Internal jugular tied two days later on recurrence of rigors. Death on fifth day after admission to hospital. *Post mortem.*—General bacterial pyæmia with no large infarcts.

(5) Girl, aged 14. Seen 14 days after typical onset. Discharge very profuse from both ears. Much deafness and slight earache. Drum and meatal appearances only slightly suggestive. Watched for four days. *Operation.*—As discharge was increasing. Left side: Large peri-sinus abscess. Right side: Mastoiditis; pus in antrum and cells. Discharged in five weeks. Hearing excellent.

CLASS B.—*Six cases operated on before onset of complications.*

(1) Sister. Seen ten days after ordinary onset. More pain than usual, as the perforation was constantly healing, leaving pus under tension. Incision of drum on two occasions. *Operation.*—Pus found throughout a very pneumatic mastoid. Aditus much eroded. Progress uneventful. Hearing good.

(2) Nurse. Seen seventh day. Typical onset, symptoms, and signs. *Operation.*—Free infection of pneumatic mastoid. Progress uneventful. Hearing normal.

(3) Sister. Seen 14 days after typical onset. Course complicated by empyema of maxillary antrum on the same side. *Operation.*—Extensive mastoid infection. Progress slow but uneventful. Normal hearing.

(4) Nurse. Seen four days after onset. Large perforation of lower quadrant of drum. Slight redness of posterior meatal wall. Watched for 14 days with apparent improvement. Sudden increase of discharge, with simultaneous bulging of posterior meatal wall. *Operation.*—Free infection of very pneumatic mastoid. Aditus carious. Progress satisfactory. Hearing only moderate.

(5) Nurse. Seen second day. No discharge. Slight bulging of upper quadrant of drum and meatal wall. *Incision* resulted in slight discharge. Increase of meatal bulging and quantity of discharge. *Operation.*—Pneumatic mastoid full of polypoid granulations. Erosion of aditus. Progress satisfactory.

(6) Girl, aged 11. Seen fourteenth day. Typical case. *Operation.*—Pus throughout mastoid. Antrum and aditus carious. Progress uneventful. Hearing normal.

CLASS C.—*Cases seen from first onset (four cases).*

(1) Boy, aged 11. Seen in first 24 hours. Appearances typical. *Operation.*—Third day. Large carious antrum communicating with lateral sinus. Progress uneventful.

(2) Nurse. Seen in first 24 hours. Typical. *Operation.*—Third day. Large antrum with purulent contents. Swollen mucosa, but no pus in mastoid cells.

(3) Nurse. Seen second day. The perforation in this case occurred on the second day, and was not, as usual, in the drum, but *at the apex of the swelling of the posterior meatal wall.* A probe could be passed through this perforation into the antrum. This occurrence illustrates the mechanism of the production of the meatal swelling. *Operation.*—Third day. Antrum freely infected. Aditus eroded.

(4) Boy, aged 10. Seen 12 hours after onset of earache. Semi-comatose. All signs of basal meningitis. Drum bulging in upper quadrant, but no perforation. Redness of posterior meatal wall. *Operation.*—Large subdural abscess, with extensive gangrene of dura. Condition of patient forbade further operation. Death 20 hours later. *Post mortem.*—Whole cisterna basalis full of thick yellow pus, connected with antrum by track leading through hole in roof of antrum.

Importance of Early Recognition.

The fact we particularly wish to emphasise is that after perforation the patient was apparently proceeding satisfactorily, being free from all symptoms and often able to resume his ordinary pursuits until one or other of the dangerous sequelæ arose. Hence the importance of the early recognition of the only sign we have found to be constantly present—namely, the redness and swelling of the upper drum and postero-superior meatal wall, together with the continuance, and especially the increase, of the discharge in a case of otitis media following influenza.

We have classified our cases into three categories: (*a*) Cases not recognised until the occurrence of dangerous sequelæ; (*b*) cases seen shortly after the appearance of the discharge; (*c*) cases followed from the onset.

This arrangement more or less represents our progressive knowledge of the disease, and we have little hesitation in believing that if the cases in Class C had not been treated when they were they would have run the grave risk of following the same course as those in Class A.

In Class B it will be noticed that we attempted on several occasions to forestall the onset of mastoiditis by incision of the drum. Except in one case, which is not recorded, our efforts were unsuccessful.

THE CLASSIFICATION OF PULMONARY TUBERCULOSIS.

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IN selecting a suitable classification for pulmonary tuberculosis one must bear in mind the objects of the classification.

Methods of Classification.

From the point of view of one arranging museum specimens a basis of morbid anatomy is clearly indicated, and one would found the classification on such changes as excavation, caseation, or the amount of lung involved. This is an unsuitable method when dealing with the living subject. Not only is it difficult to determine clinically how much lung is involved and exactly in what condition the lung is, but the extent of the disease, and more especially the anatomical stage, are often poor indications of the condition of the patient. For instance, excavation, a late stage in the morbid anatomy, is often found in most satisfactory cases.

A classification based on the systemic disturbance is more useful for the clinician. This may be combined with the anatomical changes which accompany the disease, as in the classification of Sir Robert Philip.

The Turban classification which is based on morbid anatomy may be modified (as suggested by Meissen) by the addition of the letters F or f to denote severe or slight pyrexia.

Dr. A. C. Inman's classification is based on pyrexia, and he divides the cases into: (1) resting febrile; (2) resting afebrile, ambulant febrile; (3) ambulant afebrile. This classification has the great advantage of being simple, definite, and not dependent on the opinion of the examining physician. It does not, however, differentiate between the fever found in early cases and that found in late, nor can one easily place the large number of chronic cases who have occasional bouts of fever but live a long time and get into an advanced stage of the disease with little or no pyrexia.

Dr. R. C. Wingfield has modified the Inman classification by adding letters to indicate the patient's fitness for work. This certainly gives a better picture of the patient's condition.

Stages in Life-history of a Consumptive.

A classification might well be based on the vital capacity constants as worked out by Professor G. Dreyer, and by this means one could define the exact condition of the patient. One could say he was so much per cent. below normal. This method seems to me to be of the greatest value, but to employ it as a standard method of classification at present is open to several objections. It does, however, enable one to follow the life-history of the patient.

If we follow the life-history of a consumptive from the time when the disease is first recognised until the end we find three distinct stages.

In the first the patient is receiving institutional treatment with a view to improving his condition or curing the disease. Sooner or later the patient reaches the second stage, when, having received as much benefit as possible from institutional treatment, he returns home and probably to work. He usually requires no special treatment, though he may be kept under observation at some out-patient department, and perhaps have some symptomatic treatment. He may require some special treatment, such as tuberculin or artificial pneumothorax, but this is now carried on whilst he is outside the institution. Then comes the third stage, when he begins to lose ground, and although the progress of the disease is often not a gradual decline, but consists of periods of ill-health alternating with periods of slight improvement, it is found that every six months the patient is worse.

Suggested Classification.

The classification I suggest is based on this life history. The first stage, A, is subdivided into (1) the hospital stage, and (2) the sanatorium stage.

The hospital stage includes patients in whom pulmonary tuberculosis has just been diagnosed and who require observation in hospital or in bed at home to enable the physician to determine the proper treatment and to see the patient's response to treatment. It may be regarded as the stage of initial rest. If the patient improves sufficiently to stand a sanatorium life he passes into the sanatorium stage. Here the patient remains until he reaches the stage of maximum improvement. He then passes into the second stage, B. This includes all patients who, having received the maximum benefit from institutional treatment, are holding their own, but in whom the disease is not arrested.

Stage 3 is the stage of decline, and includes patients who are losing ground in spite of treatment.

These stages are subdivided as follows:—

A. *Stage of institutional treatment.*—1. *Hospital stage.* α. In bed, or up less than two hours a day. β. Up from two to six hours a day.

2. *Sanatorium stage.*—α. Capable of less than half a day's work. β. Capable of half a day's work. γ. Capable of a full day's work.

B. *Stage of maximum improvement.*—1. Capable of a full day's work. 2. Capable of part-time work. 3. Unable to work.

C. *Period of decline.*—1. Able to do some work. 2. Unable to work. 3. Bedridden.

Discussion of Method.

When, therefore, the physician first diagnoses pulmonary tuberculosis he classifies the patient A 1 α. Whether the treatment is actually given in hospital or in the patient's private house does not matter. Possibly the patient is found to have acute tuberculosis and rapidly gets worse; in this case he would, of course, come into Class C 3. On the other hand, it may be found that he can pass quickly through Classes A 1 α and A 1 β, and is suitable for sanatorium treatment. The hospital stage is therefore that period of the disease during which the physician can observe the patient's response to treatment, and can decide whether he is fit for sanatorium treatment or not, and if fit, for which sanatorium he is best suited. If he is not fit he goes into Class B or Class C.

It may be thought that Class A could better be subdivided without the terms hospital and sanatorium. The names may be misleading, for many a sanatorium has a hospital side, and some hospitals give what is practically sanatorium treatment. I think, however, that the subdivisions are important. The true functions of hospital and sanatorium are entirely separate, and this subdivision serves a useful purpose if it emphasises the importance of the initial stage of rest and observation, a stage so often forgotten. Many a patient is hurried into a sanatorium when the correct treatment is rest, and often the wrong sanatorium is selected because the period of observation has been ignored.

Some patients in B Class may sooner or later require further institutional treatment with a view to patching them up again. Such cases should, I think, be classified B 3, and the words hospital or sanatorium added to distinguish them from the ordinary B Class, where no institutional treatment is required, and from those who are having institutional treatment in the early or A stage. This would not be such a large group as one might suppose, for it is usually found that such breakdowns are the beginning of the stage of decline. Thus, one would write B 3 Sanatorium, or B 3 S. After a short time one could decide whether the case should belong to the C Class or could be restored to the ordinary B Class again.

Advantages of Method.

In this classification there is no place for doubtful cases. Such cases are best referred to as cases for diagnosis. In a classification of any disease obviously no case should be included until it has been proved to be a case of that disease.

Similarly, if the disease is cured it cannot be included, and such cases are best referred to as arrested cases. If the disease breaks out again then the patient can once more be classified.

I have entirely ignored physical signs, but there is a chest diagram in all report sheets on patients, and a glance at these will give a more accurate idea of the amount of disease than any classification based on anatomy.

The classification I have suggested is simple and avoids matters about which there can be much difference of opinion. It enables one to classify an early case with no physical signs; for instance, after hæmoptysis with T.B. present. One can also distinguish between the good case with severe signs and the bad case with few, and between the A 1 *a* and C 3 cases, both of which are bed cases. Moreover, one can follow the course of the disease. For example, if one received monthly reports of a patient and found after six months the following classifications, A 1 *a*, A 2 *a*, A 2 γ, A 2 γ, A 2 γ, B 1, B 1, one could at once see that the patient has soon gone to a sanatorium where he did well, and that after some three months still had active disease, but was keeping at full work.

SULFARSENOL IN THE TREATMENT OF SYPHILIS,

WITH SPECIAL REFERENCE TO ITS ADMINISTRATION BY HYPODERMIC INJECTIONS.

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SULFARSENOL is a French preparation, manufactured by M. R. Pluchon at his bio-chemical laboratory in the Rue Michel Ange, Paris. It has the formula—$C_{12}H_{11}As_2N_2CH_2OSO_3Na$, and is a pale yellow, finely-divided powder, smelling rather like galyl. It dissolves very easily in water, making a very stable neutral solution.

Notes from Latest French and Belgian Literature.

(*a*) MM. Levy-Bing, Lehnhoff-Wyld, and Gerbay have given a large number of injections by the intravenous, intramuscular, and subcutaneous routes. By the last method they have given doses of 0.12 g. and 0·18 g. in 1 c.cm. distilled water.

(*b*) MM. Yernaux and R. Bernard, of Brussels, have studied the methods of subcutaneous injections.

They make a solution of the strength of 0·06 g. per c.cm of distilled water, and have injected at one time as much as 1·20 g. in 20 c.cm. of distilled water. The largest amount given by them in one month without any sign of intolerance has been 12 g. For intramuscular injections they at first dissolved the drug in a glucose mixture, but distilled water was found to be better, as the sulfarsenol was easier to dissolve, the solution was less sticky, and the results were equally good.

Their method of injection was as follows. Starting with 0·12 g. to 0·18 g. to test the susceptibility of the patient, the dose was rapidly increased to 0·3 g., 0·48 g., and 0·6 g., giving not more than 0·3 g. into one buttock. As the patients complained of having an injection into both buttocks on the same day, the full dose was injected into one. Later on they arrived at the fair-sized dose of 0·6 g. in 1 c.cm. of distilled water in one buttock every 6–7 days. Some of the injections seem to have been painful; sometimes pain was complained of at the site of the injections, at other times down the thigh or in the foot. Numbness was caused in a few cases. In from 6 to 10 hours these sensations usually disappeared suddenly, and did not interfere with walking or stop the patient from working. Rarely was he unable to carry out his occupation on the day following the injection. The results of using local anæsthetics, such as novocaine or stovaine, were not good.

The injection of these very concentrated solutions did not cause many reactions, either local or general. All the primary sores on the penis healed 24 or 25 days after 2 g.; chancres of the lip in from 25 to 30 days.

In summing up, they state that sulfarsenol is equal to, if not better than, N.A.B. Sores heal up quickly and the induration and enlargement of the glands rapidly disappear. It is equally useful in secondary syphilis. They state that in tertiary syphilis it acts as quickly as N.A.B. They had no Herxheimer reaction in any of their cases. It was unusual to find the *Spironema pallidum* in the sore on the day after the injection, and it was never found on the third day. After a total of 4 g. at most these workers have obtained a negative Wassermann. One of their patients had two slight nitritoid crises, showing that they are not caused by intravenous injections, but are due to arsenic, and can be produced without a Herxheimer reaction. They also got good results in acute and chronic eczema, a stubborn psoriasis, and a Vincent's angina.

M. Galonnier has shown that the elimination of arsenic was nearly the same when sulfarsenol was administered intramuscularly as intravenously.

The Method Employed: Efficacy of Treatment.

After reading the latest French and Belgian literature on this drug, and finding that injections dissolved in 10 c.cm. of distilled water were comparatively painless, I decided to try to decrease the amount of fluid, and were in a short time giving 0·42 g., 0·48 g., and 0·6 g. dissolved in 8 to 10 minims of distilled water practically painlessly.

The following was the technique employed. The ampoule is filed through evenly half-way up the neck. From 8 to 10 minims of distilled water is injected into the ampoule with a hypodermic syringe. A thumb is then placed over the opening and the ampoule is well shaken until the drug is completely dissolved; this only takes a few seconds. The fluid is then sucked up into the syringe and injected through a hypodermic needle into the loose skin of the forearm and the site gently massaged.

The spironema is present in the sore on the day following the injection, sometimes on the second day, but never on the third day.

In all cases the juice from the sore or rash has been examined daily under the dark ground, using an Edison and Swan "Pointolite," until the sore has healed or the rash has faded.

The results are about the same as we obtained in primary and secondary syphilis with silver-soda salvarsan. In tertiary cases, especially if ulcerated, the latter drug appears to be the best. Up to the present all sores have been completely healed after the third injection, usually after the first or second.

A few cases, contrary to the experience of the French with this drug, have shown a Herxheimer reaction, but only a very slight and transitory one. In one case, with a very faint early roseolar eruption on the day following the injection of 0·48 g. sulfarsenol hypodermically, the rash was much more marked and looked as if it had been painted on. On the next day the rash was completely gone.

In one case of a man with a relapse after six injections of kharsivan intravenously and five intramuscular injections of mercury in 1917, with large condylomata and sores on his penis and scrotum, the condylomata had gone and the sores completely healed six days after the first injection of 0·42 g. sulfarsenol hypodermically.

In all our cases so far the Wassermann has been negative after the fifth injection, with a total of from 2·2 g. to 2·4 g. of sulfarsenol.

Mercury was given in all cases, although probably not necessary in cases with a negative Wassermann, which remain negative from five to ten days after the first injection. It will take some time to prove whether or no cases will relapse more readily after treatment with this drug than with "606" or "914," as happened in the case of galyl.

Summary.

Sulfarsenol appears to be equal to any other form of salvarsan or neosalvarsan except as regards speed of disappearance of the *Spironema pallidum*, at any rate in primary and secondary cases. The hypodermic method of admininstration is foolproof and practically painless. It seems an ideal method for infants and those with difficult veins. Up to now I have had no side-effects, not even a slight rise in temperature; the usual contra-indications do not appear to be applicable in anything like the same degree as "606" or "914."

Intramuscularly it is less painful than "914," and can be given dissolved in distilled water. Intravenously the slightness of the Herxheimer renders less danger in cases with central nervous symptoms.

I have also used this drug intravenously in acute gonorrhœal epididymitis. One large or medium-sized dose appears to cause more pain shortly after the injection, but in two days the pain has completely gone. With two small injections at two days interval the results were wonderful. I tried 0·12 g., and 48 hours afterwards 0·18 g. The day after the second injection all pain had gone, and the testicle could be freely handled and even squeezed without any complaint from the patient.

Notes of Seven Cases Treated with Sulfarsenol.

IM. = intramuscularly; SC. = subcutaneously; HD. = hypodermically.

CASE 1.—Indurated papulo-erosive sore on left side of prepuce, inguinal glands enlarged on both sides. Wassermann ++ *S. pall.* present on day of injection, none found next day.
13/3/20: Sulfarsenol 0·54 g. IM. Inj. hyd. gr. 1 IM.
19/3/20: Sulfarsenol 0·6 g. IM. Inj. hyd. gr. 1 IM.
26/3/20: Sulfarsenol 0·54 g. IM. Sore healed. Inj. hyd. gr. 1 IM.
9/4/20: Sulfarsenol 0·54 g. IM. Inj. hyd. gr. 1 IM.
16/4/20: Sulfarsenol 0·54 g. subcutaneously in 8 minims distilled water.
18/4/20: WR. −. Total 2·76 g. sulfarsenol.
23/4/20: Rest.
5/5/20: Sulfarsenol 0·42 g. hypodermically. Inj. hyd. gr. 1 IM.
12/5/20: Sulfarsenol 0·48 g. HD. Inj. Hg. gr. 1 IM.

CASE 2.—Chancre on left side of glans penis with an indurated sore in coronal sulcus. Much inguinal adenitis. WR. ++ *S. pall.* present on day of injection, absent next day.
5/3/20: Sulfarsenol 0·48 g. IM. Inj. hyd. gr. 1 IM.
12/3/20: Sulfarsenol 0·54 g. IM. Inj. hyd. gr. 1 IM.
19/3/20. Sulfarsenol 0·6 g. IM. Sore healed. Inj. hyd. gr. 1 IM.
26/3/20: Inj. hyd. gr. 1 IM.
13/4/20: WR. −. Total 2·04 g. sulfarsenol.
14/4/20: Sulfarsenol 0·42 g. IM. Inj. hyd. gr. 1 IM.
28/4/20: Sulfarsenol 0·48 g. hypodermically.

CASE 3.—History of primary syphilis June, 1917. Had six injections of kharsivan and 5 of mercury. Admitted with secondary sores on skin of penis and scrotum. Large condylomata round anus. Inguinal and general adenitis. No sign of primary sore. WR. ++. C.S.F. ++±. Globulin nil. *S. pall.* present in sores and condylomata for two days after first injection, but not present on the third day. Five days after the first injection the condylomata had healed. Two days later the sores had quite healed and the glands in groin very much smaller.
12/5/20: Sulfarsenol 0·49 g. HD. Inj. hyd. gr. 1 IM.
19/5/20: Sulfarsenol 0·42 g. HD. Inj. hyd. gr. 1 IM.
26/5/20: Sulfarsenol 0·6 g. HD. Inj. hyd. gr. 1 IM.
2/6/20: Sulfarsenol 0·6 g. HD.
6/6/20: Inj. hyd. gr. 1 IM. WR. ++.

CASE 4.—Sore noticed three months before admission. Several primary sores on prepuce and skin of penis. Early erythematous rash chiefly on chest, slightly on arms and back. Throat injected and mucous patches on tonsils. WR. ++. *S. Pall.* present in large numbers on day of injection, also found on first and second day after, not on third day. Slight Herxheimer reaction in rash and round mucous patches on the day after the first injection, but gone on second day.
30/4/20: Sulfarsenol 0·42 g. HD. Inj. hyd. gr. 1 IM.
7/5/20: Sulfarsenol 0·42 g. HD. Inj. hyd. gr. 1 IM.
7/5/20: Sores healed, rash gone. C.S.F. − − −. No globulin. No cells.
14/5/20: Sulfarsenol 0·6 g. HD. Inj. hyd. gr. 1 IM.
21/5/20: Inj. hyd. gr. 1 IM.
4/6/20: Sulfarsenol 0·6 g. HD.
8/6/20: WR. −. Total sulfarsenol 2·04 g.

CASE 5.—Chancre in meatus, induration running down right side of fossa navicularis. Glands in groin enlarged. WR ++. *S. Pall.* present, none seen after the first injection.
22/3/20: Sulfarsenol 0·42 g. IM. Inj. hyd. gr. 1 IM.
29/3/20: Sulfarsenol 0·42 g. IM. Sore healed, only slight induration. Inj. hyd. gr. 1 IM.
12/4/20: Inj. hyd. gr. 1 IM.
19/4/20: Sulfarsenol 0·48 g. SC. in 10 minims of distilled water. WR. ++. Inj. hyd. gr. 1 IM.
26/4/20: Sulfarsenol 0·54 g. HD. Inj. hyd gr. 1 IM.
3/5/20: Rest.
6/5/20: WR. + (weak negative). Total 2·34 g. sulfarsenol.
10/5/20: Sulfarsenol 0·48 g. HD. Inj. hyd. gr. 1 IM.
17/5/20: Sulfarsenol 0·42 g. HD. WR. −. Inj. hyd. gr. 1 IM.

CASE 6.—Sore ulcerating through prepuce exposing glans penis, and erosive ulcer on skin of penis half way up shaft. History of syphilis 1918. WR. ++. *S. Pall.* detected in sores on day of injection, but not subsequently.
16/2/20: Neosalvarsan 0·45 g. IV. Inj. hyd. gr. 1 IM.
23/2/20: Sulfarsenol 0·24 g. SC. in 10 c.cm. distilled water. No pain. Inj. hyd. gr. 1 IM.
1/3/20: Sulfarsenol 0·48 g. IM. Inj. hyd. gr. 1 I.M.
8/3/20: Inj. hyd. gr. 1 IM.
15/3/20: Sulfarsenol 0·42 g. IM. Inj. hyd. gr. 1 IM.
22/3/20: Sulfarsenol 0·48 g. IM. Inj. hyd. gr. 1 IM.
29/3/20: Rest.
7/4/20: WR. − Neosalvarsan 0·45 g. Total sulfarsenol 1·62 g.
7/4/20: Sulfarsenol 0·42 g. IM. Inj. hyd. gr. 1 IM. Patient transferred to another hospital.

CASE 7.—Admitted with an erythematous rash on chest, shoulders, arms, and abdomen. Well-marked general and inguinal adenitis. Healed sore on prepuce. Mucous patches on tonsils. *S. pall.* found in rash before first injection, not after. The patient was transferred to Rochester Row six days after WR. had been returned positive.
3/5/20: WR. ++.
10/5/20: Sulfarsenol 0·42 g. HD (no Herxheimer in rash or throat). Inj. hyd. gr. 1 IM.
11/5/20: C.S.F − − −. No globulin, no cells.
17/5/20: Sulfarsenol 0·6 g. HD. Inj. hyd. gr. 1 I.M.
24/5/20: Sulfarsenol 0·6 g. HD. Rash gone, throat normal. Inj. hyd. gr. 1 IM.
31/5/20: Inj. hyd. gr. 1 IM.
7/6/20: Sulfarsenol 0·42 g. HD. Inj. hyd. gr. 1 IM.
10/6/20: WR −. Total 2·04 g. sulfarsenol.

The above experiments have been carried out under the direction of Major Charles F. White, R A.M.C., Officer Commanding the Military Hospital, Rochester Row, who has kindly given his permission for the publication of these results. I hope shortly to be able to give a report on a larger number of cases, but thought that in the meantime others might wish to try the above very simple technique of the hypodermic administrations of sulfarsenol in concentrated solution. The sulfarsenol was supplied by Messrs. Wilcox, Jozeau, and Co., of Haymarket, London.

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PLEURAL OBLITERATION:

A COMPLICATION OF ARTIFICIAL PNEUMOTHORAX.

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TUBERCULOSIS OFFICER, BARNSLEY DISTRICT, WEST RIDING, YORKS.

IN an address to the Yorkshire Tuberculosis Society recently upon lung collapse therapy, illustrated by radiograph, consideration was given to that unfortunate termination of artificial pneumothorax in which, after an effusion into it, the pleural cavity contracts to obliteration. References to this complication are few. In general, the teaching used to be that pleural effusion could aid in lung compression; but one sees signs now of growth of a more unfavourable opinion, and there are the following definite warnings. Teçon and Sillig[1] say that one result of effusion can be its undergoing rapid fibrous transformation, whereby the two pleural layers are united and continuance of artificial pneumothorax made impossible. Murard,[2] writing in 1914 on five years' experience and 98 cases, says that effusion can be absorbed, but often there persist new-formed adhesions which end by obliterating the pleural cavity. Riviere[3] gives a good description, except possibly for considering it only an occasional outcome of pleurisy. He mentions gradual obliteration of the pneumothorax cavity by the contraction of new fibrous tissue in the organised pleural layers, which can be kept apart by no gas pressure, with the common result of a drawing out and partial re-expansion of the collapsed lung, leading to fresh lighting up of the disease. I give an illustrative case.

E. T., barber, aged 17. Turban-Gerhardt Stadium III. left lung Weight, 8 st. 2 lb.; pulse, 105; respirations, 22; sputum, 2 oz. to 4 oz. daily; temperature touching 102° almost daily for months past. Left pneumothorax induced June, 1915. A mean pleural pressure (calculated by means of Kjer-Petersen's screw) of a little over atmospheric, plus ½ cm. H_2O, at most + 3, was maintained. On the succeeding three-weekly chart the temperature never reached 101°, and the sputum had dropped to ʒii.; in another month it was normal, and the sputum ʒss. or nil. In August the temperature rose from normal level to 101°, falling after three days. Small left pleural effusion, on needling serous. At the succeeding refill 390 c.cm. of N changed a mean pressure of − 11 (beginning of operation) to one of + 3½ (end of operation), whereas formerly it took 520 c.cm. or so to make − 9 into + 3. This evident diminution of the pleural space only disappeared temporarily thereafter, when higher mean pressures were resorted to, plus 7 or plus 10. In September the patient began to get up—weight then 9 st. 7 lb.—and take exercise. Condition excellent in all respects until Oct. 16th, when slight vomiting, rise of temperature, and loss of weight betokened another small effusion. With five days in bed apyrexia was regained. On Oct. 23rd exploratory puncture showed plus pressures, although no refill had been given for a fortnight, when the mean pressure had been left at − 2½. The heart was behind the sternum instead of, as formerly, to the right of it. Clearly the whole left pleural cavity was contracting, the pressure readings at subsequent refills confirming this. In November and in December 5 oz. of serous fluid were withdrawn and replaced with N; similarly the next two months. By February, 1916, the apex beat was in its normal position, and a week later moist sounds were audible again over the left upper lobe. Only then did the temperature rise, touching 101° daily and never thereafter falling. Meanwhile higher pressures had been used to antagonise the contraction and a "pocket" discovered in the axilla, but all dilating efforts failed; unfavourable symptoms duly reappeared. After some time a surgeon was obtained who was good enough to interest himself in Sauerbruch's extra-pleural thoracoplasty. Operation July, 1916. The patient's death on the table was in all probability due to use of a general anæsthetic. A somewhat similar case in different hands, also skilfully operated on, and also chloroformed, died on the second day after.

A foreign writer has said that post-pneumothorax effusions are commoner on the left side. However

that may be, I think this is probably true of the complication under notice, because all my cases have been left-sided. Moreover, the left pleural cavity is the smaller, and would have its tendency to contraction aided by the tendency of the dislocated heart to swing back to a normal position.

Pathology of the Condition.

The pathology of this condition has been studied by Jacobaeus.[4] In his interesting paper on thoracoscopy he gives the histo-pathology of a pleural adhesion in cross section, describing, in the case of cord-like adhesions at any rate, a strengthening of the adhesion, after an effusion has occurred, from development of fibrous tissue (up to a thickness of 1 cm.) upon its surface ("weiteren Auflagerungen von Bindegewebe"). Holmboe,[5] too, from radiographic investigation, finds that the post-pneumothorax pleural effusion often first appears in the costo-diaphragmatic angle. This is probable enough, for radiologists designate the "costo-phrenic sulcus" as a common site of small effusions and adhesions. Certainly many workers have considered that an effusion often precedes the recognised physical signs. I have occasionally found the first certain evidence of such a phenomenon, the fact that not so much gas will enter without causing unusually high pressure. Holmboe thinks the risk of a small effusion is that the part of the collapsed lung covered by it can expand again, the liquid not exercising the same control as air or gas. On this view adherence of the two layers would begin below at the costo-diaphragmatic angle and progress all over the pleural cavity. A 1 cm. layer of contracting fibrous tissue would have immense force.

Ætiology and Treatment.

The ætiology of this complication is clearly concerned with that of effusions in general, which, failing sepsis, are due primarily to the bacillus of Koch. This latter, by the nature of the case, is unavoidable, and from the prophylactic point of view we are concerned with contributory causes. Resort to high positive pressures used to be incriminated, but plenty of evidence proves that pleural obliteration can ensue in their absence; in none of my cases had high pressures been used before the effusion appeared. Brauns of Hanover extols the thin needle as preventive of effusions. The most generally invoked contributory cause is exposure to cold. Weinstein[6] laid great stress on this. Forlanini had, of course, mentioned it. Cionini,[7] endorsing his view, quotes 12 cases treated in a cold and damp climate, of whom, in a few days, 3 got effusions, while others under better climatic conditions were much more immune. For myself, I entirely believe in the bad effect of cold, and had come to this conclusion before turning up the literature. All my cases of pleural obliteration were being treated in outdoor sleeping shelters (dispensary practice); in a year's sanatorium work I never met with it, nor in dispensary cases treated in a bedroom near an open window. In one instance, a man earning his living, and in his third year of "refills," it followed hard upon a sudden catarrhal attack in very severe winter weather. For this reason I have resolved to do no more pneumothorax work in shelters if any other accommodation is available.

As for treatment, thoracocentesis and replacement of the fluid with gas or air is useless in the long run. Holmgren's method (extolled by Kuthy for dilating small "pockets" of free pleura) of replacing the effusion with sterile salt solution seems worth trying. But the contraction of new-formed fibrous tissue anywhere in the body is obstinate, and to maintain lung collapse extrapleural thoracoplasty will be required, since plugging between the pleura and the chest wall with some elastic non-absorbable solid (*Plombierung*) is clearly too limited a measure. It is a pity thoracoplasty is not a routine operation in this country, as it already is on the Continent. There are many details in connexion with it, and the local anæsthesia necessary is rather complicated, since the needle must reach the intercostal nerves. It would seem essential to success, however.

The operation mentioned needs more attention here. It is essential in initial adherent pleura, where no pneumothorax can be induced; a complication met with as often as every fourth case suitable for lung collapse therapy. With Spengler's modification—operating in two stages, after a preliminary thoracocentesis—it has earned considerable reputation abroad in the treatment of tuberculous pyo-pneumothorax, a complication possible in any artificial pneumothorax where the collapsed lung contains a cavity. Given this attention, and given also precautions against chill, we should be less troubled by this annoying sequela—pleural obliteration.

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VERTIGO:

ITS RELATION TO ERRORS OF REFRACTION

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VERTIGO is a common everyday malady, and any contribution towards its more successful treatment must be welcome. Mr. Sydney Scott's very interesting paper on this subject in THE LANCET, March 6th, 1920, from the aurist's point of view, will prove helpful both to consulting physician and general practitioner. Certain passages also are of great interest from an ophthalmic perspective. He mentions those cases, apparently very numerous, in which both physician and neurologist are baffled in that neither they nor the aurist have been able to discover any definite cause, and asks: "Why is it that we find the cause of the vertigo so difficult to reveal?" The object of this paper is to offer a possible explanation.

The late Dr. Guthrie Rankin once told me in connexion with neurasthenia that nearly all the patients he sent to the oculist were returned with the report that the eyes were normal, or practically so. Now, my experience—not a short one—tells me that it would be rather a rarity to find a case of neurasthenia in which both eyes are normal. May not the same thing happen in vertigo? So many patients have come under my observation in whom this point is borne out that I do not hesitate to suggest this explanation, and will endeavour to substantiate it by a few illustrative cases.

A Case with Varied Diagnoses and Treatment.

The following would appear to be a case in point:—

Patient, male, aged 32, had suffered from severe attacks of vertigo for 15 years, and consulted me in June, 1916. He had seen many specialists, and the vertigo had been variously ascribed to Ménière's disease, neurasthenia, mucous colitis, enlarged heart, &c. He had undergone a great variety of treatment, but although he had seen two ophthalmic surgeons, he was not wearing glasses. I found slight astigmatism in each eye, and advised glasses for constant use, giving the following corrections:—

[A. B., aged 32] R $\frac{+ \cdot 75}{+ \cdot 5 \text{ ax. } 145°}$ L $\frac{+ \cdot 75}{+ \cdot 5 \text{ ax. } 145°}$ Constant.

He reported in 1917 that he was much better in every way, felt equal to going to the front, and had had no attack for five months. He called to see me on March 8th of this year in what I may fairly call robust health. I do not claim to have cured this patient by spectacles, for he divides the credit of recovery between the glasses and the manipulations of an "osteopath," who found "some displacement of the cervical vertebræ which was interfering with the circulation in the brain." Fortunately he continued to wear spectacles.

Conclusive Evidence.

The next case is, perhaps, more conclusive. The patient had suffered from neurasthenia with frequent attacks of giddiness for two years previous to seeing me. He also had had much advice and much treatment; glasses had not been suggested. His sight was good; no obvious trouble had called attention to the eyes. There was, however, slight astigmatism, and,

in spite of his great scepticism and prejudice, glasses were insisted upon for constant use according to the formula—

[C. D., aged 44]

$$R \frac{-'5}{-'5 \text{ ax. } 70^\circ} \quad L -'25 \text{ ax. } 70^\circ \text{ Dist.}$$

$$R \frac{+'5}{-'5 \text{ ax. } 70^\circ} \quad L \frac{+1}{-'25 \text{ ax. } 70^\circ} \text{ Readg.}$$

There are many points of interest in the patient's own report:—

You keep, I know, such careful notes of your cases that you only have to refer to mine (June, 1912) to know that I suffered terribly from giddiness and nausea, from loss of memory, buzzing in the ears, and from incapacity to keep my mind centred on any subject long enough to complete the sentence in which I had begun to speak of it. My political work was at a standstill, and I had doubts as to whether I should ever be fit for any work again.

Since I took to glasses I have had only one giddy attack, in July, 1912. From that time my health has steadily improved until when war broke out I was extremely fit. Since then, August 3rd, I have been working at the War Office from 12 to 15 hours daily, and am still feeling well.

Three weeks ago I began to have a recurrence of the old symptoms—that is, I felt my head growing "muzzy," neuritis returned in my left arm. My digestion, too, was getting out of order, with a threatening of the giddiness and sickness. I then remembered that I had broken one of my glasses and had had it repaired here in London, and wondered if the lens were accurate and if that could be the cause of my trouble. I changed my glasses and felt better.

I then sent my suspect glasses to your optician who supplied them originally, and he states that the lens for the right eye is mounted with the front surface to the back, so that the axis of the cylinder is 110° instead of 70°. I have ceased wearing the suspect glasses one week, and already the symptoms are abating.

There could be no clearer proof that my illness, 1910-12, was due solely to eye-strain, and I am deeply grateful to you and the late Dr. Ozanne, who sent me to you."

The error of the optician sometimes brings home to the patient the real cause of his troubles. It also completely answers those ophthalmic surgeons who are sceptical as to the excellent results obtained by the correction of slight refractive errors, and who have asserted that they have been due to "suggestion." There is a tendency to attribute, in these days, nearly all the cases of neurasthenia or nervous breakdown, either directly or indirectly, to the war. In the instance just related the breakdown occurred in 1910, and after being supplied with suitable glasses the patient bore all the stress and anxiety of a very responsible Government post throughout the war with equanimity, and came to see me last autumn in excellent health. In my humble opinion, in many of these cases the starting point or primary cause is slight refractive error, often overlooked.

A Very Severe Case Successfully Treated.

In my next illustration glasses had been prescribed by an oculist for reading only, but as the patient could read easily without them he seldom used them. When I first saw him in 1903 he had suffered for some years from neurasthenia and vertigo, and was in the depths of despair after a long stay in Switzerland without benefit. Afterwards he told me how very near to suicide he had been. In this instance also the return of the trouble was due to an optician's mistake. My prescription was as follows:—

[E. F., aged 51]

$$R -1'25 \text{ ax. } 60^\circ \quad L \frac{-1}{-'25 \text{ ax.}} \text{ Dist.}$$

$$R \frac{+2}{-1'25 \text{ ax. } 60^\circ} \quad L \frac{+1}{-'25 \text{ ax.}} \text{ Readg.}$$

His report is here given:—

Nov. 24th, 1919.—"Before I saw you in 1903 I had such bad attacks of giddiness that I was often in danger therefrom. Once in London I reeled off the pavement, and only the quick pulling up of the horses by the driver prevented my falling under them, or rather being knocked down by them, for, somehow, I never went down nor entirely lost consciousness. About that time my local doctor took me to see a physician in town, who advised two or three months in the higher residential mountains of Switzerland. But the giddiness was such that I could not go alone, but had to be accompanied by my daughter, who in any place of danger walked between me and it, in case of an attack.

After your prescription for glasses I began to get better, and after some months lost all tendency in that direction and remained free until August of this year. I then had a return of the giddiness, occasionally two or three attacks in the day. Again, after seeing you and the readjustment of my glasses, that condition has passed."

Capacity of Work Restored.

Slight and infrequent attacks of giddiness are usually put down, probably quite erroneously, to indigestion or a "touch of the liver." The more serious ones of which I am treating may spoil a career or imperil life. Fifteen years of useful work were secured as an alternative to retirement in the case next related. The patient had astigmatism in each eye, apparently overlooked, as he was wearing spherical lenses only. He describes his experiences as follows:—

Feb. 20th, 1920.—"I first consulted you on Sept. 15th, 1904, having been suffering for 10 or 12 years from giddiness, so severe that it was necessary to use a stick in crossing a room. My doctor in Harrogate was inclined to suggest that I should give up my work altogether, but it happily occurred to him that the eyes might have something to do with the trouble, and sent me to you. I had used spectacles for reading for some years, but not for constant use, for although I had tried the prescription of a distinguished specialist (since dead) and he had taken great pains, I had to discard his glasses as useless after a few days' trial.

After I came to you everything was changed. Instead of being an unendurable annoyance, walking, spectacles proved the greatest comfort, so also in regard to reading. With this relief came an extraordinary improvement in the giddiness and a most surprising recovery. I was able to carry on my work, which, as you know, involved the greatest strain on both brain and eyes, and did so with the greatest comfort until last year, at the age of 70, I resigned.

I have never ceased to be grateful to you for the wonderful benefit received at a most critical period of my life, and it has been a pleasure to me to consult you regularly ever since."

Cases Attributed to Variations in Blood Pressure.

Many patients tell me that their giddiness has been ascribed to variations in blood pressure. A patient once said he had been "half killed" by treatment directed towards reducing his blood pressure. A pair of spectacles cured his giddiness in a very short time.

A medical man was once sent to me suffering from neurasthenia, giddiness, and great depression. He feared he had a tumour in the brain. He had recently seen a heart specialist who said the giddiness was due to the condition of his heart, which is described in his letter to me. His vision was quite good, and he had worn no glasses, although he had half a dioptre of astigmatism. I advised glasses for constant use, and

[G. H., aged 47]

$$R \frac{+'5}{+'5 \text{ ax.}} \quad L \frac{+'5}{+'5 \text{ ax.}} \text{ Dist.}$$

$$R \frac{+1'75}{+'5 \text{ ax.}} \quad L \frac{+1'75}{+'5 \text{ ax.}} \text{ Readg.}$$

he reported as follows:—

Sept. 11th.—"Since seeing you in June I have had a very busy season, and have got on better than I expected. I am very much better, but cannot say that I am quite myself. Have only had four bad attacks, two on 8th and two on July 9th. These are the only bad ones I have had, but fairly often, on first getting into bed, I had a kind of giddy feeling, not amounting to vertigo. I wear the glasses always, and have got quite used to them."

Again, on Nov. 28th, he writes:—

"Since writing you on Sept. 11th, I am glad to say that I have had only one slight attack of vertigo, and none since. I saw Dr. —— again last month, and he found my heart still dilated, and thought there might be some atheroma of the aorta. I was X rayed and they found slight dilatation of the aorta, which I am told is not uncommon at my age, 47. I feel quite comfortable in my glasses, and have never ceased to wear them."

A Final Illustrative Case.

These illustrations might be multiplied exceedingly, but one more ought to suffice for my purpose.

Mrs. A., who lived in Belfast, had suffered for many years from severe and frequent attacks of giddiness, and was, in consequence, unable to go out unattended; had frequently to come out of church, and often had to leave the breakfast table for this reason. She had seen physicians in Belfast, in Dublin, and a neurologist in London, and glasses had been prescribed for her from time to time by different ophthalmic surgeons for reading only. Her vision in the left eye came up to the normal standard, but there was a quarter dioptre of astigmatism, which had either been undetected or treated as too slight to need correction. She was now advised to wear glasses both for distance and reading, giving this prescription:—

[Mrs. A., aged 54]

$$R \frac{+1'5}{+'75 \text{ ax. } 30^\circ} \quad L +'25 \text{ ax. } — \text{ Dist.}$$

$$R \frac{+4}{+'75 \text{ ax. } 30^\circ} \quad L \frac{+2'5}{+'25 \text{ ax. } —} \text{ Readg.}$$

She had at last found relief.

One may well ask: "Why was the cause of the patient's vertigo so difficult to reveal?"

Her letter to me, 12 months later, is as follows:—

"You will be pleased to hear that I have had practically no vertigo, have had no prolonged attack since last July, and even the swift, little turns have not troubled me now for some months. I never have to leave the table, and, indeed, may say that I am practically free, as I go on the roads freely and never feel distressed, so if that continues, I shall be the happy woman I am at present.

Influence of Slight Errors of Refraction on Nervous System.

Two systems of dealing with refraction have hitherto prevailed. The first, which has held sway for generations, aimed at satisfying the visual requirements; and slight errors, less than one dioptre, not being necessary for this purpose, could be ignored. With the exception of headaches, functional neuroses were left to the physician. Some 20 years ago another system began in a small way to gradually assert itself. It included the former one in that it went more thoroughly into detail in meeting visual necessities, but also urged the correction of slight errors as a means of combating many functional neuroses. Scepticism on the latter point brought forth much hostile criticism, but many who were opponents in those days have since become ardently enthusiastic in favour of these views.

Attention was specially directed to this subject in a paper I published in THE LANCET in 1905.[1] Dr. G. M. Gould, the great pioneer in America in this subject, has been a most prolific writer upon it. A good illustration of the change which has taken place in the ophthalmic world is the fact that Dr. Gould was invited to read the opening paper on Refraction at the Oxford Ophthalmological Congress in 1917. What a contrast to the reception accorded to the publication of his "Biographic Clinics."

Conclusion.

I trust that Mr. Scott will be able to gather from the foregoing a possible solution of the difficulty implied in his question; that he will not too readily accept, in any case of vertigo, apart from ear trouble, the statement that the eyes are normal. We all make mistakes, and so many patients have been cured by glasses, whose eyes had previously been said to be normal. That the defect is too slight to need correction should be accepted only with the greatest caution.

Doubtless there are many ophthalmic surgeons still unconverted who continue to follow the earlier methods of dealing with refraction cases, and also many who have not yet had sufficient experience and success to ensure getting the best possible results in treating the many functional neuroses of which vertigo is a common one.

At any rate, there is plenty of room with all of us for more skill, more accuracy, more thoroughness, more perseverance, and, may I add, more enthusiasm.

Medical Societies.

OXFORD OPHTHALMOLOGICAL CONGRESS.

THE eleventh annual meeting of the Oxford Ophthalmological Congress was held at Oxford from July 14th to 16th in the department of human anatomy of the museum, kindly lent by Professor Arthur Thomson, whilst members again enjoyed the hospitality of Keble College. The attendance was large, including from overseas Professor Harvey Cushing, Dr. Luther C. Peter (Philadelphia), Professor Van der Hoeve (Leyden), Professor S. Holth (Christiania), and Dr. S. Lewis Ziegler (Philadelphia).

WEDNESDAY, JULY 14TH.

On the first day a discussion on Perimetric Methods was opened by Dr. LUTHER C. PETER, who limited his remarks to the newer methods of perimetry and the type of cases for which they were especially adapted. After pointing out the inefficiency of the ordinary perimeter in recording changes in the central zone the opener proceeded to discuss the various modern instruments specially adapted for this purpose. Dr. Peter then urged a change in the nomenclature from linear measure in millimetres to angle subtended in degrees or minutes, and discussed the size of the test object, especially for colour studies. The size for the central zone should subtend an angle of half a degree and that for the peripheral zone one degree. The special methods required for the study of bilateral central scotomata were (*a*) by making use of muscle sense, and (*b*) by the speaker's method of combining perimeter and campimeter.

A discussion followed, in which the following took part: Professor VAN DER HOEVE, Mr. A. H. SINCLAIR (Edinburgh), Dr. MARX (Leyden), Professor CUSHING, Professor HOLTH, Mr. E. H. E. STACK (Bristol), Lieutenant-Colonel R. H. ELLIOT (London), Dr. A. MAITLAND RAMSAY (Glasgow), Major L. E. J. Lister, I.M.S., Mr. T. HARRISON BUTLER (Leamington Spa), Mr. BURDON COOPER (Bath), Mr. E. E. MADDOX (Bournemouth), Mr. P. G. DOYNE (London).

Dr. MARX showed an ingenious test object for use with his perimeter consisting of a small steel ball moved by an electro magnet applied to the back of the screen, whilst Professor HOLTH exhibited three patterns of a chord pocket perimeter of his own design.

THURSDAY, JULY 15TH.

On the second day the Doyne memorial lecture was delivered by Mr. F. RICHARDSON CROSS (Bristol), who took as his subject the Nerve Paths and Centres Concerned with Sight. After paying a tribute to the founder of the Congress, the late Robert Walter Doyne, the lecturer dealt in a comprehensive manner with visual tracts and centres, comparing certain areas with the homologues in monkeys, birds, reptiles, &c. A number of interesting slides were shown of the field of vision in quadrantic hemanopia and cases of injury of the occipital cortex bearing out the more recent views on the relationship between the peripheral visual fields and the centres in the occipital area.

At the conclusion the lecturer received the Doyne memorial medal for 1920.

Papers were read by Mr. A. S. PERCIVAL (Newcastle-on-Tyne) on Light Sense, with some practical deductions drawn from its consideration; Professor VAN DER HOEVE on Eye Symptoms in Tuberose Sclerosis of the Brain, an extremely interesting and valuable contribution to the present knowledge of the disease; Mr. MAURICE BARTON, an Examination of the Eyes of Pit Ponies, particularly with reference to miners' nystagmus.—Dr. A. HUGH THOMPSON read a paper on Physiological and Glaucoma Cups, in conjunction with one by Dr. RAYNER D. BATTEN, entitled "Premonitory Symptoms of Glaucoma, (1) Deep Tension, (2) Excavation of the Optic Disc."—Dr. ZIEGLER'S paper on the Ocular Menace of Wood Alcohol Poisoning attracted attention, as also did a fascinating contribution by Dr. LOUIS SAMBON entitled, "Ancient Eye Instruments."

Discussion on the papers was unfortunately limited by the length of the programme.

On the afternoon of the second day the Congress adjourned to the Eye Hospital, where short papers were read on operations, new instruments, and ophthalmic apparatus, as follows:—

Lieutenant-Colonel H. HERBERT on the Indications of Glaucoma Operations, four illustrative cases being shown.—Professor HOLTH described a new punch-forceps sclerectomy for glaucoma.—Mr. N. C. RIDLEY showed a patient whose orbit he had successfully restored by a plastic operation and who was consequently able to wear an artificial eye.—Dr. BATTEN demonstrated the hydropthalmoscope on a patient and indicated its value clinically.—Mr. PERCIVAL showed some simple devices for estimating the light-sense. All the contributions were freely discussed.

Museum and Festivities.

In the Scientific Museum, which was open during the Congress, Mr. STACK showed a simple and ingenious motor trephine which should prove of considerable aid in the operation of trephining. Mr. R. J. E. HANSON (London) showed a well-designed ophthalmic bureau and equipment for R.N. oculists serving at either a Royal naval hospital, a depôt, naval base, or fleet at sea, and also drawings and models of improvements in gun-sighting telescopes, theodolites, and microscopes.

[1] THE LANCET, June 10th, 1905. Slight Errors of Refraction and their Influence on the Nervous System.

—Mr. MADDOX showed (1) an artificial epistaxis knife; (2) illuminated forceps; (3) the "V" test for astigmatism.—Mr. RIDLEY showed a new cataract knife.—In a separate room Professor Barr's optophone was demonstrated. In the Commercial Museum instruments, apparatus, lenses, and books were on view during the meeting.

At the close of the proceedings on the first day a general meeting was held, after which members with their friends met at Queen's College for tea, the Rev. S. B. Cronshaw acting as host. The official dinner of the Congress took place on Thursday evening in the hall of Keble College.

SOCIÉTÉ DE THERAPEUTIQUE DE PARIS.

AT a recent meeting of this society Dr. BENSAUDE and Dr. HALLION communicated a paper on the Treatment of Asthmatic Attacks by Adrenalin and Pituitary Extract. They stated that two different views were held as to the pathogenesis of asthma, some writers maintaining that it was due to bronchial spasm, and others to vascular turgescence of the alveoli. The two views, however, were not incompatible with one another, for while adrenalin caused a relaxation of the bronchial spasm pituitary extract in small doses caused a fall of blood pressure and relieved the pulmonary congestion.

In a paper on Gastro-intestinal Disturbances of Psycho-neurotic Origin and their Treatment by Psychical Re-education Dr. P. E. LEVY recorded various cases of gastric or intestinal disorders which had been treated for several years by ordinary methods without effect, but were rapidly cured when the underlying moral or psychical causes were recognised and received appropriate treatment.

In a paper on Intravenous Injection of Iodine Oil, Dr. F. RATHERY and Dr. J. CARTIER stated that after experiments on horses they had given intravenous injections to patients suffering from various diseases, such as chronic rheumatism, syphilitic arteritis and lethargic encephalitis, without any bad effects and with decidedly better results than had been obtained in the same patients by ingestion of potassium iodide. The doses consisted of ½–1 c.cm. of lipiodol, the injections being given every week or fortnight.

In a note on the Treatment of Hæmorrhoids by Cupressus Sempervirens, Dr. H. LECLERC stated that the use of the cypress as a hæmostatic and astringent dated from the time of Hippocrates. The preparations which were to be recommended were the fluid extract, the tincture (20–30 drops twice a day before meals) or the soft extract (0·15–0·20 g. daily). The fluid extract, or 5 per cent. tincture, could be applied externally, and also the soft extract in the form of an ointment or suppositories, each containing 0·15 g. of the active principle. All cases so treated showed an attenuation of their inflammatory symptoms, and cessation or diminution of hæmorrhage, pain, and spasm of the sphincter.

In a paper on the Treatment of Gastric Syphilis Dr. G. LEVEN stated that many medical men were ignorant of gastric syphilis and its effects. Before making the diagnosis of cancer of the stomach the practitioner should always think of syphilis and try the therapeutic test, whatever the Wassermann reaction might be. Dr. Leven's treatment was as follows: first day, intramuscular injection of 0·02 g. of biniodide of mercury; second day, mercurial inunction; third day, mercurial suppository; fourth day, another injection; fifth day, inunction; sixth day, suppository, and so on until the twenty-first day, except that the inunction was given only five times, an injection or suppository being substituted when four inunctions had been given. When the period of 21 days' treatment was completed the patient was given 15–20 days' rest and then a second or third series, if necessary, was ordered. Three grammes of iodide of potassium were given daily simultaneously with the mercurial treatment. Arsenical compounds were not employed.

Reviews and Notices of Books.

THE SHIBBOLETHS OF TUBERCULOSIS.

By MARCUS PATERSON, M.D., Medical Superintendent, Metropolitan Asylums Board, Colindale Hospital; late Medical Superintendent, Brompton Hospital Sanatorium, Frimley; Medical Director, King Edward VII. Welsh National Memorial Association; Resident Medical Officer, Brompton Hospital. London: John Murray. 1920. Pp. 239. 10*s*. 6*d*.

WITH regard to the insane, medical men are ready to admit the superiority of institutional over home treatment, and to concede to the alienist the qualifications of a specialist better equipped than themselves to treat insanity successfully. At present the position with regard to pulmonary tuberculosis is very different. It is a disease every practitioner treats, and the aid of the specialist is seldom invoked till the disease is incurable. One reason for this state of affairs is the belief, still prevalent, that when plenty of fresh air, milk, eggs, butter, and rest or exercise have been prescribed, little further need, or can, be done. Dr. Paterson's book will come as a rude shock to the exponents of this comfortable creed. He gives the Encyclopædia Britannica definition of shibboleth as: "A catch phrase or cry to which the members of a party adhere after any significance or meaning which it may have imparted has disappeared," and, as an example, he quotes H. R. Reynolds: "Christians were ready to insist on that insensate shibboleth: Except ye be circumcised, ye cannot be saved."

To readers whose knowledge of pulmonary tuberculosis is derived from the platitudes of most text-books and the perfunctory teaching of this subject in many general hospitals the author's book will be little short of a revelation. One after another of the stock teachings of an older generation are irreverently pulled down from the safe niches which the passage of time has left high and dry. Some of these relics are dusted, patched up, and replaced, but many are mercilessly consigned to a damnation unrelieved by the faintest praise. It is impossible to follow this process of destruction without becoming infected with some of the author's glee over the bonfire. It is really amazing that so many myths concerning tuberculosis should still exist.

In each of the 59 chapters a shibboleth is dissected. The author begins by exposing the folly of sterilising milk without heeding germ-laden butter and cheese. He also stamps as shibboleths that (1) cod-liver oil is necessary in the treatment of tuberculosis; that (2) exertion causes hæmoptysis; that (3) cold foods and drinks are necessary for the treatment of hæmoptysis; that (4) a tuberculous empyema should be opened and a tuberculous larynx scraped; and that (5) a change of climate is good for tuberculosis. The promoters of farm colony schemes will hardly be flattered to find their progeny superannuated as shibboleths, but they may find comfort in the reflection that the author's alternative scheme—a garden city for tuberculosis—is first-cousin to the farm colony. Of the value of sanatoriums the author has no doubts, and a recent criticism of them by Dr. L. Cobbett is mercilessly ridiculed. Cobbett's statements are interpreted by the author as meaning that "..... in plain language ..... one of the surest ways to stamp out tuberculosis would be to hasten the deaths of all tuberculous persons. There can be no doubt that to kill every person having tuberculosis would be quicker still." The half-truth—"once tuberculous, always tuberculous"—is parodied by the author's rendering: "once a patient has had pulmonary tuberculosis, he is never allowed to suffer from any other disease."

It would be very hard to overrate the value of this book. Yet here and there the author kills shibboleths only to replace them by others; as, for example, when he insists on divorcing treatment of the disease from

training of the patient for a suitable profession, or when he recommends morphine in hæmoptysis. But these are minor details, and the book, as a whole, is as sound in its teaching as it is pungent and entertaining in its style.

DIE DEUTSCHE CHIRURGIE IM WELTKRIEG 1914 BIS 1918.

Herausgegeben von AUGUST BORCHARD, Professor in Berlin-Lichterfelde, und VICTOR SCHMIEDEN, Direktor der kgl. chirurgischen Univ.-Klinik, Frankfurt a.M. Leipzig: Johann Ambrosius Barth. 1920. Two vols. Pp. 938. M. 102.

THROUGHOUT the war it was widely stated and believed that German war surgery was greatly inferior to that practised by French and British surgeons. Sometime we shall know to what extent this was true, but German surgeons were not guilty of all the barbarities attributed to them. Shortage of materials compelled them to resort to the use of inferior substitutes, which handicapped them in their work to an extent it is still difficult to realise in spite of the ocular demonstration provided by the condition of returned prisoners of war. This much it is necessary to remember.

We have now the means of roughly comparing German surgery as a whole with ours by this large and impressive text-book in two volumes, edited by Professors August Borchard of Berlin and Victor Schmieden of Frankfort. It is, of course, difficult to judge after the event how efficiently the work was carried out in the average field hospital, but the impression produced by a perusal of these volumes is that German methods were, on the whole, though with important exceptions, not widely different from ours. They were faced with precisely the same problems, and they seem in most cases to have arrived at the same solutions. No doubt the literature of French and British war surgery was available on the other side of the line, and the German is a past master at extracting the best from other people's ideas. But if German war surgery owes anything to the Allied nations, the debt remains unacknowledged. True, the Carrel-Dakin treatment is described, but we have searched in vain for other reference to French or British authorities.

The whole field of war surgery, including late treatment, is difficult to compress into 900 pages, and the attempt to be exhaustive has resulted in an inequality which is sometimes ludicrous. An example of this is to be found in the page devoted to the condition of "chylothorax" following wounds of the thoracic duct. Another is the tendency to give quite worthless statistics; it can hardly serve any useful purpose to state that, of 309 wounds of the penis, 41 were mortal, without specifying the other wounds that accompanied them. All war statistics are apt to be misleading owing to the presence of incalculable factors. The German claim, however, that in penetrating wounds of the abdomen 40–50 per cent. of the cases operated upon were saved seems a modest one. During the last year of the war the percentage of recoveries in British hospitals was considerably higher than this. An advantage of the exhaustive method is to be found in an interesting chapter on self-inflicted wounds, which we do not remember to have seen separately described in any text-book in English.

In trying to form an independent estimate of German surgical efficiency we turned naturally to three topics of outstanding importance—the treatment of gas gangrene, of shock, and of fracture of the femur. It was rumoured, as widely as the uncomplimentary rumours referred to above, that during the war the Germans had been more successful than ourselves in the search for an efficient serum with which to combat gas gangrene. And we find that, in the present work, emphasis is laid on the use of a polyvalent bactericidal (not antitoxic) serum; it is even recommended that it be given prophylactically at the same time as the antitetanic serum, which was used in the German army, as in ours, for every wounded patient. Here they seem to have been in advance of us; but we should like to know more of the results. In the other two test subjects it is pretty clear that we outstripped the Germans in the race for efficiency. Judging by what the Berlin and Frankfort professors have to say, the causes and treatment of shock do not seem to have been extensively studied or understood. The extremely inadequate account of blood transfusion that is given suggests that this vital method was very little practised; and other substitutes for saline infusions, such as gum solution, are barely mentioned. In the description of the treatment of fracture of the femur no place has been given to the Thomas's splint; we should not expect to find it referred to under that name, but it does not seem to have been used at all. Instead, plaster bandages, with windows cut in them at the site of the wounds, commended themselves to the writer of this chapter, and we receive an impression of rough and ready methods. We cease to wonder at the condition of returned prisoners of war. In the after-treatment of their own wounded, extension seems to have been applied largely by means of nails or some equivalent driven into the bone, and no contrivance, such as Pearson's callipers, resting lightly on the bone, is described or figured. If for the purpose of fixing a fractured femur during transport the Germans had any method as good as that of Thomas, it fails to emerge from the volume before us.

The book is well produced and illustrated. The handsome cloth binding deceives the eye at first, but on looking closely we see that, except for the back and corners, it is made of a cloth substitute.

ANNALS OF MEDICAL HISTORY.

New York: Paul B. Hoeber. September, 1919. Pp. 213–304. $2.50.

THE publication of this part has been delayed by difficulties in printing. The papers are of much interest. One is an appreciation of Bence Jones, another deals with the accounts of Felix Platter, the well-known Basle physician of the sixteenth century. His accounts show that in 54 years he made £120,020, Basle pounds that is, which would amount in modern money to about £25,000, but of course the purchasing value of money in the sixteenth century was far higher than to-day. Besides his purely professional occupations Platter increased his income by the breeding and sale of silkworms, silk, and canaries. Perhaps the most interesting paper in the number is that by Dr. John Foote called "Ancient Poems on Infant Hygiene," dealing with two sixteenth-century poems, the one by Tansillo, called "The Nurse," and the other by Scévole de St. Marthe, called "Pædotrophia." Didactic poems are always good reading, and perhaps no other class of literature shows such wide divergences. Compare the beauty of the "Georgics" and the austere majesty of the "De Rerum Natura" with Dr. Grainger's poem on "The Sugar Cane"; or, to take an even worse poem, with the astonishing drivel of Solyman Brown's "Dentiad." Bad as this latter was though, its advice is sound.

> "Whene'er along the ivory disks are seen
> The rapid traces of the dark gangrene,
> When caries comes, with stealthy steps to throw
> Corrosive ink spots on these banks of snow,
> Brook no delay ye trembling suffering fair,
> But fly for refuge to the Dentist's care.

The poems discussed by Dr. Foote are on a much higher level than Mr. Brown's, and the hygiene of them is excellent; the therapeutics and the physiology are naturally not in accordance with modern ideas.

Great interest was taken in infant hygiene in the sixteenth century in France owing to the lessening of population brought about by the civil wars, while in the eighteenth century in England reform of infant mortality and the treatment of children's diseases were beginning to be considered as desirable. Both Tansillo's poem and that of St. Marthe were translated into English 1797–98—the one by William Roscoe, the other by Dr. H. W. Tytler, though a previous translation of Pædotrophia by N. Rowe had appeared in 1710. Rowe also translated another poem by the Abbé

Quillet called "Callipædia, or an Art How to Have Handsome Children," so that any married couple equipped with these three volumes could not plead ignorance of either pre- or post-natal hygiene. Despite the astonishing folk lore of all three poems, there is a great deal of instruction which is quite unexceptionable and which might well be impressed upon both expectant and actual mothers to-day.

Another interesting paper is that by Dr. Pleadwell, being an account of William Paul Crillon Barton, an ardent reformer in the American Naval Service, who was born in 1786. He seems to have been a genius, but if the portrait of him which is reproduced is a good likeness, we must agree with a contemporary who pronounced his style of dress "equally unnatural and eccentric."

DENTISTRY.

By BAYFORD UNDERWOOD. London: J. and A. Churchill. 1920. With 10 illustrations. Pp. 216. 9*s*. 6*d*.

WITHIN the space of a little over 200 pages Mr. Underwood has contrived to compress the essential facts of dental anatomy and dental surgery. The book should be of value to the student who, having mastered his subject from the standard text-books and his hospital practice, wishes to refresh his memory just before undergoing the ordeal of examination.

EVERYDAY MOUTH HYGIENE.

By JOSEPH HEAD. London: W. B. Saunders Company. 1920. Illustrated. Pp. 63. 5*s*.

THE object of this small book is to enable "loving mothers and conscientious nurses" to acquire a knowledge of the principles of mouth-cleansing. The author starts by describing with the aid of diagrams the morbid conditions usually known by the terms pyorrhœa alveolaris and caries, and impresses on his readers that these conditions can be prevented by the regular removal of the bacteria from the surfaces of the teeth. He considers that in the use of floss silk and the tooth-brush lies the salvation of the race from dental disease.

In a book written for the laity we are disappointed to find no reference to the influence of diet on the dentition, or to the importance of nasal breathing and of active function of the teeth. The prevention of dental disease will not be accomplished by the employment of artificial methods, but by a recognition of the fundamental principles underlying the physiology of mastication. The book is well illustrated, and the methods of cleansing the teeth clearly described.

AIR SICKNESS: ITS NATURE AND TREATMENT.

By R. CRUCHET, Professor of Medicine in the University of Bordeau, and R. MOULINIER, Naval Surgeon. Translated from the French by J. ROSSLYN EARP, M.A., M.R.C.S. London: John Bale, Sons, and Danielsson. 1920. Pp. 96. 5*s*.

IT is a pleasure to be able to welcome this excellent translation of MM. Cruchet and Moulinier's little book. The whole question of the investigation of the physical fitness of pilots, and of the special disabilities that result from flying, is so important, that it is very stimulating to have the views of our French colleagues set before us. The writers emphasise the rise in diastolic pressure that is found after a flight, and attribute it to vascular changes induced by the rapid alterations in the atmospheric pressure, since they have found it greater when the descent has been very rapid. They compare the effect of flights with the changes in blood pressure induced by violent exercise. The results that they report seem to us to be explicable as an after-reaction to the low diastolic pressure which exists during the flight, as they themselves have shown, and which English and American workers have found may be produced by mere exposure to low oxygen tensions, and we do not consider that they have sufficiently disposed of the arguments of their opponents, MM. Marchoux and Nepper, who attribute almost the whole effect of a rapid descent to the pressure differences set up in the ear. When one considers the effects that may be produced on the vascular system by vestibular stimuli, as, for instance, in seasickness it is difficult to exclude this factor. Mere slight fatigue and the reactions which follow emotion are also probably contributing factors and receive some, though in our opinion insufficient, consideration. There is one misprint on p. 89, since it is clear that Valsalva's manœuvre should have been recommended for descents, and Toynbee's for ascents and not vice versa.

This book may be safely recommended to all those who are interested in the medical problems of flying, since the authors develop their arguments well, even when dealing with very controversial points, and include valuable advice on the hygiene of flying men.

GOD'S PRICE.

By MAUDE LEESON. London: George Allen and Unwin, Ltd. 1920. Pp. 314. 7*s*. 6*d*.

HAD Miss Leeson devoted less space and care to propounding her philosophy that "God's debts are not to be settled cash down," she might have written a less tedious and more artistic story of the subsequent meeting and reunion of a divorced couple. She has missed an opportunity of producing a valuable work, for she observes well and lacks many current affectations in literature on the subject of love and marriage.

THE DIARY OF A POLICE SURGEON.

By GRAHAM GRANT. London: C. Arthur Pearson, Ltd. 1920. Pp. 188. 3*s*. 6*d*.

THIS is a selection of the more arresting episodes in an East-End practice extending over some 30 years. We can recommend it to all as an example of canny observation; to the medical student as supplying that touch of reality without which forensic medicine is merely a phantasy of the legal mind obsessed; and to the layman as a dramatic tale of life, after reading which he can no longer wonder at the popularity of the Lyceum productions. In our police surgeon we early suspected his relish of a "really good fight!"

BRIGHTNESS AND DULLNESS IN CHILDREN.

By HERBERT WOODROW, Ph.D. London: J. B. Lippincott and Co. 1919. Pp. 322. 6*s*.

THIS book by the associate professor of psychology in the University of Minnesota suggests that whilst we are more or less at a standstill in England there is a steady and continuous advance in educational research in America, of which the author gives a review. The earlier part of the work is of medical interest, dealing as it does with the graded status of the individual, reckoned from the chronological, mental, anatomical, and pedagogical age, with the relations of these gradings and with their value for assessment as to the future work of the individual child.

The rapid growth of the brain in pre-school age is well illustrated by a diagram, stated to embody the most recent research, but reminiscent of that published by Donaldson 25 years ago. Eruption of the teeth is taken as the best criterion of anatomical age, but unfortunately, although the author is apparently aware that girls have, on the average, one tooth more than have boys of the same age, there is no sex discrimination in the table given. The ossification of wrist bones has also been put forward as a means of determining age, but it is still doubtful whether this can be as universally accepted as the author suggests. However, he builds up a clear and concordant picture showing that anatomical age, however measured, correlates to mental ability, and that, whether the brightness of the child be high or low, the rapidity with which his mental growth is completed correlates with his anatomical age. When the latter is less than the child's chronological age the author advises that attention should be directed primarily to his health. But physical defects are far from being

the chief factor in school retardation. Evidence of mental superiority over the boy is more than accounted for by the girl's superiority in anatomical age. What Roberts showed in THE LANCET[1] 35 years ago for the group of girls above puberty Dr. Woodrow demonstrates for those below that age. The school standard is found to be a little too high for the average, so that the majority fall behind. Girls, however, make more progress than boys. The evidence of early fixation of the child's capacities even before school age is also reviewed. The uselessness of effort to educate the dullest is emphasised, for if a child's intelligence quotient (the mental age divided by the chronological) is below 0·7 arithmetic, except of the very simplest, is out of the question, and if it is below 0·4 instruction in reading is hopeless. Taking children as a whole, 10 per cent. are subnormal and 4 per cent. supernormal, so that something more than ordinary schooling is a necessity in many cases.

The book is mainly taken up with psychological assessments of children, and may be read both as an indictment of our scholastic system and a guide to the way out.

TASCHENBUCH DER AUGENHEILKUNDE FÜR ÄRZTE UND STUDIERENDE.

Fourth edition. By Dr. CURT ADAM. Berlin and Vienna: Urban and Schwarzenberg. 1920. With 72 figures and 5 plates. Pp. 400. M. 66.

THIS book, the first edition of which was published in 1908, is addressed to the German-speaking practitioner, and presumably contains so much of the theory and practice of ophthalmology as he is expected to know, indicating the cases in which the help of the specialist should be called in. External diseases occupy the bulk of the book. The bacteriology of conjunctivitis finds a place, and so does the differential diagnosis of external muscular paralysis. On the other hand, all diseases of the fundus are left severely alone and the ophthalmoscope is not even mentioned. Even refraction is only dealt with by the description of subjective tests. The retinoscope is presumably an instrument for the specialist. No operative procedures are described except the simple ones that usually fall to the lot of the general practitioner. There is, however, a copious list of formulæ for prescriptions and references to various other methods of treatment. In this country a book purporting to be a handbook on diseases of the eye, limited in the way that has been indicated, would hardly be acceptable. The deplorable economic conditions now existing in Central Europe, one result of which is that even such a small book as this is priced at what would seem to be a prohibitive figure, may account for much.

JOURNALS.

Journal of the R.A.M.C.—In this journal for June Dr. Woodcock completes his notes on Malaria in Palestine. Of fresh infections those in the early part of the year are predominantly benign tertian (82 per cent.), with a maximum in July; malignant tertian began to rise very rapidly in September, and in October had its own maximum and was then far more prevalent (86 per cent.) than the benign. In Palestine infections were massive, and malignant tertian parasites were so numerous in the films that this infection could be quickly diagnosed; often several parasites were seen in the first microscopic field. Intravenous injections of 12 gr. of bihydrochloride of quinine in 10 c.cm. normal saline injected slowly through a very sharp fine needle, 1 c.cm. in half a minute, and repeated twice daily for two days, had more effect on the disease, and with less inconvenience to the patient, than any other treatment which he saw there.—Major C. T. H. H. Harold tells how he met, traced out, and stopped an epidemic of tick fever in Persia. It was spread by *Argus persicus*, a bed bug. Men were infected in dirty caravansaries and with relapsing fever, not of the Indian but of a Persian character, resembling the relapsing fever of East Africa. The disease yielded to injections of neo-salvarsan.—Captain J. A. Glover, O.B.E., with a statistical account of some 250 cases of cerebro-spinal fever, shows that while the average death-rate was about 44 per cent., one group of 37 cases, which was lucky in coming under treatment with a new serum, in consequence had only four deaths in all—a 12 per cent. mortality—Lieut.-Col. E. P. Sewell, C.M.G., D.S.O. and others discuss an outbreak of food poisoning in 31st General Hospital at Port Said on Jan. 19th and 20th, 1917, with 473 cases and three deaths. It attacked mainly the patients but also a few of the orderlies. The infected food was probably the tinned milk used in the tapioca pudding and the tea, and it was probably in some way infected after the tins were opened, but the exact causation remains obscure, in spite of the careful investigation that was made.

Journal of Neurology and Psychopathology, Vol. I., No. 1.—Dr. William McDougall, of Oxford, contributes a paper dealing with suggestion and its definition. His amended definition is couched in the following terms: "Suggestion is a process of communication resulting in the acceptance with conviction of the communicated proposition independently of the subject's appreciation of any logically adequate grounds for its acceptance." He explains the assertion of Professor Janet and others that they can hypnotise only neurotic subjects and that the patients, when cured, can no longer be hypnotised and are insuggestible, by pointing out that this experience depends on the degree of self-assertiveness of the patient; if the operator invites the intelligent help of the subject, explaining to him the nature of the process, Dr. McDougall says it will be found that his resentment is not aroused, there is no desire to assert his independence over against his would-be hypnotiser, and that with good and sufficient reason successful coöperation with the physician is always possible. —Dr. Worster-Drought contributes a useful and practical article on the Treatment of Cerebro-spinal Fever, which can be recommended as a thoroughly up-to-date presentation of a subject which has undergone considerable modification as the result of war experiences.—Dr. Parkes Weber sends a paper on Thinking and Dreaming, and the Freudian explanation of dreams, based on interesting evidence culled from what was supposed to "constitute life" amongst ordinary sensual individuals in bygone times. His contention is that the Freudian teaching that nearly all dreams have a sexual explanation is most unlikely to be true, or that the element of truth in it is so exaggerated as to appear preposterous.—Dr. George Watson, of Rainhill, records in some detail the pathology of a case of encephalitis lethargica involving mainly the cerebral cortex.—There are shorter papers by Dr. Douglas Firth on Cerebellar Fits of the Hughlings Jackson type, by Dr. R. M. Stewart on Hypotonia in General Paralysis, and by Dr. Graham Brown on the Phenomenon of Heteræsthesia in a case of Spinal Concussion.—A particularly useful critical review on Vagotonia, by Dr. Alfred Carver, is also worthy of mention.

LONDON HOSPITAL MEDICAL COLLEGE.—On Monday, July 5th, the prizes and certificates were distributed to the successful candidates of the Medical College of the London Hospital for the session 1919-20. The distribution was made by Dr. Robert Hutchinson, a physician to the hospital and member of the College Board. The following is the list of the scholarships and prizes awarded: "Price" entrance scholarship in Science, £100, Mr. L. Mushin; Second entrance scholarship in Science, £50, Mr. H. Taylor; "Price" university scholarship in Anatomy and Physiology, £52 10s., Miss C. M. Otley, of the University of Oxford. Medical prize, £20, Mr. D. Hunter; prize in Clinical Obstetrics and Gynæcology, £20, Mr. M. C. Hartley; honorary certificates, Mr. J. R. Zeitlin and Miss M. E. Kennedy. "Andrew Clark" prize in Clinical Medicine and Pathology, £26, Mr. D. Hunter; honorary certificates, Mr. P. Steinberg and Mr. F. H. W. Tozer. Surgical prize, £20, Mr. D. Hunter; honorary certificates, Miss M. E. Kennedy. "Anderson" prizes in Elementary Clinical Medicine, £3 each: (1) Miss D. J. Fox; (2) Miss D. Gibson; (3) Mr. F. H. Mather; honorary certificates, Mr. H. D. Lawson, Miss H. R. Ashton, Miss D. S. Russell, and Miss E. M. Dixon. Inpatientdresser's prizes, £5 each: (1) Mr. C. S. Cloake; (2) Miss D. Gibson and Mr. W. Thomas, equal, prize divided; (3) Miss H. R. Ashton; (4) Miss G. H. Jones; honorary certificates, Miss G. Denham and Miss D. S. Russell; Practical Anatomy, £6 prize, Miss S. H. G. Robinson; £2 prize, Mr. P. H. O'Donovan; £2 prize, Mr. A. J. Reed; honorary certificates, Mr. D. R. Blunn, Mr. G. N. Golden, Mr. S. A. Grant, Mr. K. W. Todd. "Letheby" prizes, £15 (Organic Chemistry), Mr. R. T. Brain; honorary certificates, Mr. L. Mushin; £10, Chemical Pathology, Mr. C. S. Cloake; honorary certificate, Mr. F. C. Hunt. "Sutton" prize, Pathology, £20, Mr. M. Tree. "Buxton" prize in Anatomy and Physiology, £31 10s., Mr. G. N. Golden; honorary certificate, Miss D. Peake. "Arnold Thompson" prize in Diseases of Children, £15, Miss O. G. Potter; honorary certificates, Miss D. J. Fox, Miss M. E. Kennedy.

[1] The Physical Maturity of Women, THE LANCET, July 25th, 1885, p. 149.

THE ROYAL SANITARY INSTITUTE:

BIRMINGHAM CONGRESS, JULY 19TH–24TH.

THE thirty-first annual Congress of the Royal Sanitary Institute was held in Birmingham from Monday, July 19th, to Saturday, 24th, Lord ASTOR presiding. 12,000 members and delegates attended, this number having only once been exceeded—namely, at Glasgow in 1904.

PRESIDENT'S ADDRESS.

Viscount ASTOR delivered his presidential address at the inaugural meeting on Monday. He gave a broad survey of the relation of government to public health, and declared that under present circumstances local government—i.e., administration and government by elected representatives—was at stake. He was optimistic of the future, but warned the public that the only alternative was the growth of a bureaucracy. The place of those who wished to serve the community was on the councils, and they must not be content to act merely as members of voluntary associations. He made a strong appeal for the best men and women to come forward to serve in this capacity. He emphasised the importance of moulding public opinion; governments could not legislate far in front of public opinion. The various functions and problems of the Ministry of Health were touched upon. Housing at the moment was, he said, the primary concern; a high ideal had been set up, and there was a vast field of work to be explored. He was hopeful of the sequel to the free entry of women into new fields of endeavour.

It is interesting to recall that at the Birmingham Congress in 1898 Sir Joseph Fayrer advocated the institution of a Ministry of Health, and that upon its next visit the Congress finds this former ideal an accomplished fact.

During the week five sections met regularly, being devoted to: (*a*) Sanitary Science and Preventive Medicine; (*b*) Engineering and Architecture; (*c*) Hygiene of Maternity and Child Welfare; (*d*) Personal and Domestic Hygiene; (*e*) Industrial Hygiene.

THE SECTIONS.

In the *Section of Preventive Medicine* Sir ROBERT FIRTH, on Tuesday, in his presidential address attempted to strike a balance-sheet of the national health. On the one side the expectation of life has, he said, increased in males from 41 to 51 years and in females from 44 to 55; the infant mortality rate is well below 10 per cent.; we suffer a relatively light burden from some epidemic diseases and many gross forms of disease have practically disappeared; while whole groups of tropical diseases are coming under control. On the other side, there is a steadily falling birth-rate, an unnecessary loss of life in infancy and before birth, nearly 100,000 new cases of tuberculosis annually, a similar number of cases of diphtheria and scarlet fever, and upwards of a million cases of measles. Further, one-sixth of the children of school age are too dull mentally to derive reasonable benefit from schooling; half are in need of dental treatment. More than half the people under the Insurance Act claim and receive treatment representing an aggregate loss of working time equal to thousands of years per annum. The Garden City he regarded as the product of a confusion of ideas and as giving us doll's house plots and a series of pocket squares of mown grass. He thought our towns should contract in place of expanding and rise instead of spreading. He advocated a closer coöperation between the whole-time public health officers and the general practitioner. The administration of the Public Health Acts had not only failed to attract the sympathetic coöperation of the practitioner, but sometimes tended to divorce his interest from the work.

Dr. G. A. AUDEN discussed the provision of institutions for the mentally defective and enunciated the main principles essential for their success.—Dr. W. A. POTTS, who is psychological expert to the Birmingham magistrates, urged the importance of psychic clinics.

A discussion on the Falling Birth-rate: Is it to be Deplored? was opened by Dr. KILLICK MILLARD. The birth-rate reached its maximum of 36 per 1000 in 1876, since when it has continuously declined, until in 1914 it was 22·8, a reduction of 37 per cent. Dr. Millard considered the question in relation to food-supply, over-population, and fuel-supply, and decided that a reduction in the birth-rate was a wise, civilised, and economical method of meeting the situation.—Dr. P. BOOBBYER (Nottingham) and Dr. S. G. MOORE (Huddersfield) took the opposite view, the latter foreseeing that if we restricted and other nations did not we should be simply overwhelmed.—There was an animated discussion, revealing a sharp division of opinion.

On Wednesday Colonel R. J. BLACKHAM, A.M.S., read an important paper advocating the claims of dried milk. He described the effects of drying upon the milk and pointed out that it still contained vitamines. Being sterile, it is especially useful for infants, notably in the tropics. It also had a great field of usefulness in various disease conditions.—The claims made were strongly supported by several medical officers of health who had used it in infant welfare centres, only one speaker preferring ordinary cow's milk for this purpose.—Professor H. R. KENWOOD advocated the control of the sale of disinfectants, and a resolution was passed demanding that liquids sold as disinfectants should be graded, the lowest having a carbolic coefficient of at least one.—Dr. J. A. DELMEGE read a paper on Malaria Prevention, based on experience with the army in Salonika.

There was a discussion on Public Health Considerations relating to Influenza, Pneumonia, and Allied Epidemics, opened by Dr. F. G. CROOKSHANK, who urged the importance of clear thinking as to the causes of epidemics and the pursuit of historical and epidemiological methods of inquiry. A pandemic of influenza was a coördinated series of happenings, in which individuals and particular sets of circumstances play their part, but ultimately caused by forces, telluric or cosmic, involving periodic variation in the condition of all forms of life.—Dr. W. H. WYNN followed with statistics of the results of the use of vaccines for prophylaxis and treatment. He urged the importance of immediate treatment, and that pneumonia and influenzal broncho-pneumonia should be regarded as emergencies comparable to acute appendicitis or perforated ulcer, demanding immediate action. Of cases of influenzal broncho-pneumonia injected within 24 hours of the onset there were no deaths, and 71 per cent. had a normal temperature within 24 hours of the injection; whereas of those injected on the fourth and fifth day only 30 to 35 per cent. had a normal temperature in 24 hours after an injection.—The papers were discussed by Dr. A. T. NANKIVELL, Dr. J. B. FERGUSON, and others.

In the *Section of Hygiene of Maternity and Child Welfare* the Stillbirth Problem was discussed from the public health point of view by Dr. JOHNSTONE JERVIS (Leeds), and Mr. BECKWITH WHITEHOUSE (Birmingham) spoke on the causes and methods of prevention. Of constitutional causes, venereal diseases and alcoholism were the most potent, and of obstetrical causes, placenta prævia, obstructed labour, and eclampsia occupied the chief place. He advocated Cæsarean section for placenta prævia in substitution for version.

Infant Welfare Work, the Milk-supply, Sex Hygiene, the After-Care of Consumptives, Domestic Animals as a Factor in the Spread of Disease, and the Methods of Rat Suppression were among the prominent subjects discussed at other sections.

On Tuesday evening Sir FREDERICK MOTT gave an address to the Congress on Body and Mind, in which he discussed the nature of functional nerve conditions and their treatment; on Thursday evening Dr. ANDREW BALFOUR delivered the popular lecture on Links with the Tropics, mainly dealing with malaria.

Conferences of Representatives of Sanitary Authorities, Medical Officers of Health, Engineers and Surveyors to County and Sanitary Authorities, Veterinary Inspectors, Sanitary Inspectors, Health Visitors, and Rat Officers also took place. During the whole week an exhibition of apparatus and appliances relating to health and of domestic use, opened on Monday by the Lord Mayor, was held in the Bingley Hall.

We reserve for more detailed notice three papers of particular medical interest read in the sections.

(To be continued.)

THE LANCET.

LONDON: SATURDAY, JULY 31, 1920.

The Accuracy of the Medical Register.

IT cannot be too often said, or too strongly insisted upon, that the accuracy of the Medical Register is a professional necessity. The Registrar of the General Medical Council has pointed out this in our columns and in those of the *British Medical Journal* on many occasions, and we have insisted as frequently to our readers that the remedy for omissions or errors in the Register lies in their own hands. The statutory duty of the General Registrar or of the Branch Registrars ceases when an inquiry has been sent to the last registered address of the practitioner whose existing whereabouts it is decided to ascertain, and if no answer is received to such inquiry the name may be legally removed from the Register. This is done reluctantly in a certain proportion of cases, and may result in serious inconvenience to the practitioners concerned. As a matter of fact, this summary, and, be it remembered, legal course, has never been taken without provocation, and the officers of the General Medical Council employ every means, as far as time and circumstances permit, to get into communication with practitioners whose addresses have been found to be incorrect in the Register. An example, alike of the work of supererogation done by the Registrars and of the carelessness of practitioners in the matter, was furnished by what happened at the election of Direct Representatives last November. On this occasion a very large number of voting papers was returned to the Council through the Dead Letter Office. Two-thirds of these practitioners have since been traced, and their correct description will be found in the forthcoming Register, but there is still a number whose addresses cannot be ascertained, and this residual third bulks into the lengthy list which has been furnished to us by the General Registrar, and which is published on pages 259 to 263 of this issue of THE LANCET.

We are asked to request earnestly that any medical practitioners who find their names in this list will immediately communicate with the particular officer concerned in putting the matter right—namely, the Registrar of the Branch at which they were originally registered—while information from friends of deceased persons or others will be welcomed by the same officers. In publishing this list to obtain information the General Medical Council is taking a measure which cannot often be repeated, and we trust that its efforts will be rendered successful by the prompt coöperation of our readers. The reason why so many voting papers at the recent election for Direct Representatives did not reach their destination—in other words, the reason why the existing Medical Register shows a serious percentage of inaccuracy—requires no explanation. Hundreds, nay thousands, of practitioners left their homes at short notice during the war, and as those who read the constant series of obituary notices published in this journal know only too well, a sinister proportion of them never returned. And of those who returned many have not taken up the professional careers which they had quitted, but have changed their addresses, and in some instances their branches of practice. It was only to be expected, therefore, that at the close of the war the Medical Register should require drastic overhauling and heavy correction, and to enable these things to be done the Council is making a special appeal for the help to which the officers have a right; while if this help is withheld the consequences will recoil upon the practitioners of medicine directly, while public business may be impeded.

The following points should be remembered. It is by no means unusual for doctors to practise under names which differ in some particular from those appearing on the Register in accordance with the original enrolment. Sometimes Christian names or initials are dropped or added, sometimes hyphenated names are used. It is now the custom for the Ministry of Health and other public officials to consult the Register regularly, and to decline to recognise anyone by a name which is not that registered. Therefore those who have made an alteration in name should take the necessary steps to have the matter put in order by causing a corresponding alteration to be made in the books of all the bodies whose qualifications they hold, and by notifying the fact to the Registrar concerned. The General Medical Council charges a nominal fee of 6*s.* for making the change, which involves some expense to it, and the fee includes the Government stamp for 1*s.* for a certified extract from the Register as corrected.

Cancer Research To-day.

THE discussion on cancer at the recent meeting of the British Medical Association and the annual report of the Imperial Cancer Relief Fund give an idea in what directions, after a break of five years, the attack on this problem is going to be resumed and how far it had progressed when it was interrupted by the war. A modern feature of experimental cancer research is the absence of speculation on the nature of cancer. The speculations, which were formerly a favourite pastime of the morbid anatomist, appear to have little attraction for the experimental worker in cancer. He is a sober-minded person who is out for facts which can be ascertained and established experimentally, and he has little use for speculations, brilliant though they may be, which in the present state of our knowledge must necessarily be based on insufficient grounds. A striking result of such research has been to reveal the inadequate nature of the purely morphological criteria on which hitherto the definition of malignancy has rested. Thus the fowl tumours discovered by ROUS, and transmissible by a virus, are morphologically indistinguishable from sarcomata which cannot thus be transmitted. Again, by continued irritation of susceptible cells it is possible to produce a lesion which microscopically is indistinguishable from a typical epithelioma. Nevertheless, when the irritation is discontinued the lesion may regress and heal. There are, further, certain types of tumours occurring in mice which do not grow when transplanted

back into the animal in which they originated (autoplastic transplantation), while other types of tumours always grow under these conditions. It is evident, therefore, that the term cancer, as used hitherto, has comprised types of cell proliferation which are biologically different, though morphologically similar. These different types must now be separated and distinguished by new criteria. Dr. J. A. MURRAY points out, in the annual report of the Imperial Cancer Research Fund, that auto-transplantation may prove to be an experimental test of malignancy which will render possible a differentiation of the various biological types of neoplastic cell proliferation. This trend of modern cancer research has been clearly recognised by EWING, who writes as follows in the historical introduction to his excellent book on neoplastic diseases. "The twentieth century opens as the experimental era with a systematic study of tumours throughout the animal kingdom, and it seems likely to become noteworthy as a period of specific etiological investigation which promises to widely separate many neoplastic diseases formerly held to be closely related. It may thereby prove to be the era of successful therapeutics and prophylaxis."

Biochemical investigation reveals the same difficulty in finding a property characteristic of malignancy. Not long ago many believed that cancer cells secreted toxins or ferments which destroyed the surrounding normal tissues of the host and thus enabled the cancer cells to prey on their host, who slowly became cachectic. We know now that the production of such substances is not a fundamental property of cancer cells. Their occurrence is due merely to accidental factors, such as necrosis or infection of the badly vascularised tumour. Investigations on the metabolism of cancer cells, their nutritive requirements, their chemical composition, their respiration, have so far failed to reveal any features in which the malignant cell is essentially different from a normal or a non-malignant cell. Cancer cells do not grow by preying on the surrounding tissues, and so far nothing has been found to show that the mechanism of their growth is in any way different from that of a normal cell. The results of homo-transplantation and auto-transplantation, the possibility of inducing resistance against the implantation of a cancer cell derived from a different animal, the failure to do so when the cancer cell is re-implanted into the animal in which it originated, and the biochemical investigations just referred to, all emphasise the fact that there is an essential similarity between the cancer cell and the normal cell. In many respects the likeness between the cancer cell and the normal cell of the animal in which it originated is greater than that between the normal cells of two different animals. The change which takes place when a normal cell becomes malignant is evidently a subtle one, and cannot be expressed in the comparatively crude terms of ferments, toxins, differences in amino-acids, increased affinities for foodstuffs, and so on. The nature of this subtle change cannot yet be stated; and the disability arises from the fact that our knowledge of the physiology of the normal cell life is as yet imperfect, while the phenomena of growth in the normal cell forms almost a terra incognita. What are the changes taking place in the cells of the skin when an abrasion induces their proliferation? And by what mechanism is their proliferation slowed and finally arrested when the normal structure of the skin has been reproduced? These questions cannot yet be answered. But they will have to be answered before we can hope to understand how the malignant cells begin to proliferate and how they escape the control which keeps in check the proliferation of the normal cell. The cancer problem, viewed from this aspect, is a biological problem. The transplantable animal tumours exhibit the phenomenon of growth in a particularly pure and striking manner and their study has already thrown light on the problem of the growth of the normal cell. They also exhibit the phenomenon of senescence. It is here, perhaps, that cancer, which has so far defied all therapeutic attacks, is vulnerable. There are well-authenticated cases where in the human subject new growths of an undoubtedly malignant nature have undergone spontaneous absorption. This process occurs more frequently in transplanted tumours, and it has been found that it takes place during this period of senescence.

The first step in therapy is therefore indicated unless some default in the arguments can be found. It is, namely, to study the factors which determine the onset of senescence and to induce the condition experimentally. A beginning in this direction has already been made; the condition of senescence is associated with a diminished water content of the cells, and appears to be due to a diminished degree of imbibition of the protoplasmic colloids. Such a condition can be induced in vitro by treating the isolated cancer cells with a solution of calcium salts. But attempts to influence in this manner the tumour cells when growing in the animal have so far failed. Here a new difficulty is met with which may for long prove to be a stumbling block to therapeutic attempts. The tumours are generally badly vascularised and extensively necrosed. When substances intended to act on the tumour cells are injected into the host, the sluggish and imperfect circulation prevents them from being carried into the tumour in sufficient concentration before the host has dealt with them by excretion or otherwise. Thus even our first step must be a halting one, while cancer still guards its mystery. There was a time when it was confidently believed that we were almost in sight of the longed for solution, and that one lucky observation might remove the veil that hides it and make us the master of the disease. But we are no longer likely to under-estimate the difficulties which lie ahead while we accept the view that those difficulties are coincident with the most intricate problems of cell life.

From the Cradle to the Grave.

IT has been the dream of the hygienist, the statistician, and the eugenic reformer to possess a complete record of the health of each member of the community from the day of the birth until the final demission, whether from old age, accident, or preventable disease. For a long time past the health record of the school child has been precisely recorded, and in some districts, at least, is continuous with the data obtained from infant welfare and maternity centres. An opportunity for accumulating such information upwards seemed to be afforded by the medical benefit regulations under the National Insurance Act of 1911, which required the panel practitioner to keep records of

the diseases of patients and of his treatment of them. But the form of record then drawn up with the help of the British Medical Association soon proved unsatisfactory, the cards containing particulars of illness being sent year by year to the Insurance Commissioners, who found it impossible to bring together the particulars of illness in regard to a particular patient for successive years, although they had deprived the practitioner of the chance of doing so without undue clerical labour. The system, indeed, seemed to the busy clinician to afford the maximum amount of annoyance with the minimum return of value to himself or anyone else, and it was with a sense of intense relief all round that the duty of keeping any record at all was remitted under the pressure of war. When this pressure relaxed the obligation was not immediately reimposed, for the reason that it was thought better to take the opportunity of devising something more proper to its purpose than the old record had proved to be.

In the spring of this year it will be remembered that a committee was appointed jointly by the Minister of Health and the President of the Scottish Board of Health to consider and advise them as to the new form of this health record. The personnel of this committee, including as it did distinguished representatives of all affected departments of State and medicine, under the chairmanship of Sir HUMPHRY ROLLESTON with two medical members of the Ministry of Health as secretaries, was a sufficient guarantee for the thoroughness of the inquiry, and their report now issued as a white paper[1] considers, in a way in which they have never been considered before, the rival claims arising out of the desire for statistical information and of the ability of the hard-worked practitioner to supply this information. The committee has agreed that the form of record must now be framed so as to afford a continuous story of the insured person's illnesses, and that it shall remain in the hands of the insurance practitioner who is responsible for the insured person's care. Granted these obviously reasonable conditions, it remains to be seen what kind of records it is fair to demand of the doctor. He will no longer have in any case the useless trouble of copying details from card to card at the end of the year; his time will also be further saved by the entry on the patient's card in the first instance of certain particulars by the Insurance Committee. Retaining the card himself, it will be possible for him to use it as his own index register of insured persons. The committee would now impose on the practitioner nothing more than the obligation of making such a clinical record as will be of value to himself and to any other practitioner attending the patient later. Some valuable paragraphs in the report deal with the question of provisional diagnosis, which is the special point too of an appendix drawn up by Sir JAMES MACKENZIE and the staff of the St. Andrews Institute for Clinical Research. Stress is here laid once more on the defects of medical knowledge in the early stages of disease, and the danger of recording as a diagnosis conclusions concerning the nature and causes of illnesses which cannot be regarded as scientifically ascertained. In the new record card, recommended by the committee, separate columns are provided for symptoms, treatment, and provisional diagnosis on the one hand, and on the other for diagnoses of which the practitioner feels reasonably certain.

[1] Cmd. 836. H.M. Stationery Office. Price 3d.

Having thus determined on broad lines the scope and extent of the clinical records, the report proceeds to discuss the administrative and statistical uses which can be made of them. The mere maintenance by the practitioner of a continuous record of medical histories will in itself make it possible for departmental inquiry into, say, sickness at a particular age or falling upon those engaged in a specified occupation. The difficulty lies in the fact that the records on the accepted plan will not be returned to the central department until the patients have died or gone out of benefit. Three alternative ways, none of them free from objection, are considered for obtaining the necessary general conspectus, and in the choice between these the committee were not unanimous, while recognising that systematic tabulation of selected portions of the records of a large and clearly defined class of persons would be likely to yield results of value. A promising suggestion, which the committee held to be outside its terms of reference, was to use the certificates of incapacity sent in to the Approved Societies as the basis of some useful analysis without involving the collection of clinical material in the hands of practitioners. It is clear the committee has achieved much by free discussion. But whilst signing the report as a whole, Dr. J. BROWNLEE tabled his preference that records of certificated disability should be kept separate from the clinical notes so as to be transmitted to a central department at suitable intervals. This may still be found practicable. The immediate necessity is to obtain the willing and whole-hearted coöperation of the clinician himself, without which the statistical pyramid has no base, and this is assured by the whole tone of the recommendations. It is hoped that the new system of records may come into force on Oct. 1st next.

Patent Medicines.

THE Proprietary Medicines Bill was published this week. In general its provisions confirm the recommendations contained in the report of the Select Committee on Patent Medicines ordered by the House of Commons to be printed August 4th, 1914. This Committee, during the three sessions of Parliament over which its labours extended, held 33 public sittings and examined 42 witnesses, of whom more than 14,000 questions were asked. There was thus an accumulation of evidence gained on all questions of the sale of patent and proprietary medicines and medical preparations and appliances, and of advertisements relating thereto. The situation is summarised as follows. For all practical purposes British law is powerless to prevent any person from procuring any drug, or making any mixture, whether, potent or without any therapeutical activity whatever so long as it does not contain a scheduled poison. Nor can the law prevent any person from advertising such mixture in any decent terms as a cure for any disease or ailment; from recommending it by bogus testimonials and the invented opinions and facsimile signatures of fictitious physicians; or from selling it under any name he chooses, on the payment of a small stamp duty, for any price he can persuade a credulous public to pay. The Bill aims at putting an end to these abuses, and its progress in Parliament will be watched with the greatest interest. We shall have occasion to deal with the provisions more fully in future issues.

Annotations.

"Ne quid nimis."

A STANDARD ARTIFICIAL LEG.

ARTIFICIAL limb-making has proved a more difficult task than was at one time supposed. The delay in obtaining exactly the appropriate arm or leg to replace the one which has been lost in the service of the country has given rise to annoyance on the part of the patient and caused anxiety to his medical adviser, who knows that the sooner the appliance becomes part of his everyday wear the better for the pensioner in mind, body, and estate. It is satisfactory to learn that arrangements to this end are now well forward at the Ministry of Pensions, which has been considering for three years the standardisation of the types of artificial legs, the object being to facilitate repair and replacement. Work on standardisation was carried out last summer by a committee under the chairmanship of Sir Reginald Bacon, and has since been completed by the Minister's advisers, Sir Charles Kenderdine, director of artificial limb supplies; Mr. T. H. Openshaw; Mr. E. Muirhead Little; Mr. R. C. Elmslie; Mr. Michael Longridge, past president of the Institution of Mechanical Engineers; and Mr. A. D. Bailey, technical adviser to the Ministry. The specification of these standard limbs has been approved by the Advisory Council to the Ministry and by Sir Lisle Webb, Director-General of Medical Services. In a few months all artificial legs of wood or leather supplied to pensioners will comply with the new specification. The method adopted has been to standardise the mechanism of the limb and the metal component parts, leaving the actual limb to be fitted to and assembled for the individual pensioner by the limb-maker. The latter point is of great importance, as every limb must necessarily be adapted to the individual needs of the man. The principle of the artificial leg is that from the ankle up to the thigh a universal pattern will be capable of being supplied in quantity, and that for each man, whether he needs a right or a left leg, all that remains is to affix a suitable foot and a suitable bucket. These two latter items, of course, prevent any attempt at standardisation and mass production of whole limbs. The bucket, for instance, must in each case be made to fit accurately, and a modern ankle-joint will be so constructed as to give the amount of play acceptable to the wearer.

Standardisation is not to be allowed to interfere with progress. It is a standardisation of those types of limbs which have been thoroughly and extensively tested, and of which about 35,000 have been issued. Further improvements will be made, and the types will be modified as these are tested and proved. The Ministry have had in hand the problem of providing a lighter artificial leg, made of duralumin or some similar metal instead of wood and leather, and one type of this light limb has now received the approval of the advisers. Light limbs have evident advantages for certain cases. The pattern now approved will, it is hoped, be capable of being made on a large scale by an engineering firm in such a way that only the actual fitting to the man need be carried out by a skilled limb-fitter.

ANGEITIS IN WILD ANIMALS.

Dr. Herbert Fox,[1] Director of the Laboratory of Comparative Pathology of the Philadelphia Zoological Garden, describes the incidence of angeitis, a collective term including productive endarteritis and degenerative arteritis or arterio-sclerosis, in 5464 autopsies on wild animals. Only 86 cases, or 1·5 per cent., were discovered, their distribution being as follows: mammals autopsied, 1806, angeitis, 33 cases, or 1·8 per cent.; birds autopsied, 3571, angeitis, 53 cases, or 1·4 per cent.; all other animals autopsied 87, angeitis, 0. Degenerative arteritis was observed in 31 mammals, the orders Primates, Carnivora, Marsupialia, and Ungulata being represented. The lesions appeared in the form of roughened, rather opaque areas in the intima, with degeneration of the media, but the sharply outlined, heaped-up, ulcerating roughened intima, so characteristic of human arterio-sclerosis and present to a slight extent in the Aves, was missing. The aorta was by far the most frequently affected vessel, the lesions being usually found at the top of the arch and in the thoracic portion. Deformity was never great, and aneurysms were found only four times. Ten of the 31 cases showed frank renal lesions, about equally divided between the degenerative and glomerular types. Fifty-one instances of degenerative arteritis were found among the class Aves, the condition being commonest in birds of prey, parrots, and gallinaceous and aquatic birds. In birds of prey the lesions, while most pronounced in the aorta, were found also in the main branches in the form of heaped-up, irregular, yellowish-grey intimal patches over the degenerated media. In parrots the lesions were common in the smaller vessels and strongly resembled senile arterio-sclerosis, with its medial degeneration and calcification as seen in man. The gallinaceous and aquatic birds showed insular atheroma in sharply defined areas. Chronic renal lesions were found in 17 of the 51 birds, the degenerative type being apparently the most frequent. Productive endarteritis was present in two mammals—a rodent and an elephant—and two birds. In the birds and the rodent the process was associated with chronic intestinal lesions, and in the elephant with chronic pulmonary tuberculosis. In only two of the whole 86 cases was chronic valvulitis noted, the aortic and mitral valve being involved. In conclusion, Dr. Fox states that arterio-sclerosis was very common in the orders showing the greatest number of cases of gastro-enteritis, this being specially true of parrots, aquatic birds, and herbivorous and carnivorous mammals. The animals most affected were those prepared by nature for severe or prolonged effort, such as in flight or fight.

[1] The American Journal of Medical Sciences, June, 1920.

WAR LOSSES OF THE ITALIAN NAVY.

THE Italian Navy, we are told by the well-known Colonel (Surgeon-Captain) C. M. Belli, in the *Annali di Medicina Navale*, lost 3925 officers and men killed by accidents or enemy action during the war. Italy joined us in May, 1915, and in the five years 1915–1919 the average annual strength of her navy was 3146 officers and 85,780 men, of whom 172 officers and 3753 men were drowned or killed, or, per thousand annually, 10·7 officers, 8·7 men. It is noted that the Italian Army also lost a higher proportion of officers than of men. In all, 150 were killed in the air or from the air (bombs, &c.), 362 in action, 980 in explosions or other accidents on board, and 2433 were drowned. As for deaths from disease, the numbers have not yet been made out for officers, but amongst the men there were 2543, being 68 per cent. of the deaths by enemy action or violence. Influenza claimed 1241; it defeated all efforts at prevention. Tuberculosis took another 195. Its incidence increased yearly from 0·1 per 1000 in 1915 to 0·7 per 1000 in 1919. Its chief mortality fell not upon the small craft, destroyers, and so on, which went to sea, and whose complements were specially selected from men of good physique, but on the battleships, which did not go to sea, but were used as depôts. They had ship's companies more numerous than in peace time, and amongst them were many men, formerly invalided, but now called up, who speedily broke down and infected their neighbours before their condition was recognised. Cerebro-spinal fever caused 68 deaths. Malaria, with 64 deaths, showed only a small increase on normal times, though many men were employed ashore in unhealthy localities. This fortunate result is ascribed to prophylactic measures, and especially to "quininisation" (method not stated). Antityphoid inoculation was introduced in February, 1915. Its effect was at once noticeable. Only 46 deaths from typhoid and 9 from paratyphoid are reported in the five years of the war; 27 men died of ictero-hæmorrhagic spirochætosis or

epidemic jaundice. There were only 4 deaths from cholera, though three Italian ships, carrying Austrian prisoners (captured by the Serbs), had 1500 deaths on board during a three days' passage. Each Austrian bore a label stating his various vaccinations and inoculations, and it appears that the Austrians contracted cholera because they had not been vaccinated within 12 months, but the Italians on board all escaped, for they were revaccinated every three months. Amœbic dysentery caused only 6 deaths; they are ascribed to infection brought to Taranto by the English. No deaths from bacillary dysentery occurred. The splendid cleanliness of the Italian detachments sufficiently explains why there were no cases of typhus or relapsing fever among their detachments ashore in Albania. Altogether the record is a good one.

TUMOURS OF THE CAROTID BODY.

OF the carotid body little is known. Its origin, whether from endoderm, mesoderm, or ectoderm, is doubtful. It seems to belong to the chromaffine system and to have a relation to the sympathetic nervous system like that of the medulla of the suprarenal body. Its tumours come under clinical observation, but the number of recorded cases, of which some are doubtful, does not exceed 80. The most common tumour is adenoma. In the Bulletin of the Johns Hopkins Hospital for June Dr. M. R. Reid has reported three cases from Professor Halsted's clinic. The following is an example:—

A man, aged 46 years, was admitted on March 28th, 1913. In February, 1908, he accidentally discovered a small lump about midway between the angle of the jaw and the clavicle. It caused only disfigurement and gradually enlarged "in spite of all sorts of treatment." Pulsation was first observed in 1911, and had become much more pronounced in the last two years. He was told he had an aneurysm, and advised to see Dr. Halsted. On admission this diagnosis was confirmed by the many surgeons who examined him. A large expansile pulsating mass involved the left side of the neck from the lobe of the ear to within 3 cm. of the clavicle and from the middle of the neck anteriorly to the trapezius posteriorly. Its external circumference was 17 cm. The trachea was displaced 1 cm. to the right of the middle line. A thrill was felt along the posterior part of the tumour, which was slightly compressible. Firm pressure below the tumour did not lesson the pulsation in it. There was a scarlatiniform rash over the upper chest and neck. The left wall of the pharynx was dislocated towards the median line, so that the tonsil lay in the median line below the uvula. The entire pharynx pulsated visibly. Dr. Halsted tied the common carotid artery, which occupied an abnormally lateral position and was surrounded by dilated venules. The artery was dilated and very soft. After the operation the tumour did not pulsate, was much softer, and 5 cm. smaller. A faint bruit, however, was audible. On April 10th, 1919, the patient returned because the pulsation had recurred and the tumour had gradually enlarged. A huge swelling involved the left side of the neck from the mastoid process to the middle line and downward nearly to the clavicle. The trachea was displaced 2 cm. to the right. Over the tumour the skin was erythematous, and over the lower part were large tortuous veins, suggesting angioma. Slight heaving pulsation was visible and a thrill was felt. There was a continuous, almost musical, bruit, with systolic accentuation. Firm pressure over the left common carotid did not affect the pulsation of the supposed aneurysm. There was no bulging of the left side of the pharynx and the tonsils were in normal positions. There was complete paralysis of the left vocal cord. Dr. Reid suspected an angiomatous tumour or an arterio-venous fistula. He performed a difficult operation requiring 4 hours and 20 minutes. Huge vessels were encountered everywhere. The carotid artery was not recognised. It was necessary to resect the vagus nerve and internal jugular vein and the eleventh and twelfth nerves, which ran through the tumour, had to be divided. The sterno-mastoid muscle was excised with the tumour. For 36 hours œdema of the epiglottis caused dyspnœa and then convalescence proceeded. The specimen was very vascular, weighed 190 g., was yellowish-brown on section, and proved to be an angioma of the carotid body.

Keen, who was the first American to write at length about tumours of the carotid body, has given the best illustrations and descriptions of their pathology. He speaks of 12 points which may help in diagnosis: (1) the position at the bifurcation of the carotid artery; (2) movability laterally but not vertically; (3) ovoid in shape; (4) smooth and not lobulated; (5) single; (6) transmitted pulsation; (7) bruit and thrill; (8) bulging of the wall of the pharynx; (9) pupils occasionally constricted; (10) slow growth; (11) long duration; and (12) a rather firm elastic consistency. Speaking negatively, he says they are: (1) not tender; (2) not painful; and (3) the deformity is the main complaint. Yet these tumours have seldom been correctly diagnosed before operation. Aneurysm, as in the case narrated above, has often been diagnosed. Nothing is known of the function of the carotid body, nor have any functional disturbances been described in connexion with its hyperplasia. But in the present case the patient's skin was of a yellowish dark colour and in another of Dr. Reid's cases of a light lemon colour. The pigmentation in both cases cleared up after removal of the adenoma. Were the body juices saturated with chromaffine substance? The pigmentation was certainly associated with the hyperplasia of the gland. As to the treatment, the results are not satisfactory. A mortality of 30 per cent. and a morbidity nearly as high should make the surgeon hesitate before operating. Most of the patients have been operated on for cosmetic reasons and would not have submitted had they known that it is usually necessary to divide the carotid artery, jugular vein, vagus, and hypoglossal nerves. Pneumonia, hæmorrhage, cerebral anæmia, are given as causes of death in this order of importance. Keen and other eminent surgeons are opposed to operation when the tumour is large and the important structures mentioned have to be sacrificed. Small tumours which can be freed from them should be removed. The long duration of the growths reported (1 to 40 years) seems to indicate that a carotid adenoma is not prone to become malignant. For malignant tumours necessarily a radical operation is indicated.

ATROPHY DEPENDENT ON AND CONDITIONED BY HYPERTROPHY.

AMONGST gland cells, perhaps the most inexplicable so far as its multifarious uses and complexity yet separability of functions are concerned is the liver cell, an apparently simple histological unit as revealed by the microscope, yet how obscure is its metabolism and its range of influence upon the adjoining cells of a liver lobule. One feature of its potential activities stands out very markedly. Ponfick and others by means of experiments on rabbits showed many years ago that if a quarter or a half or more of the liver be removed the original bulk and the activities of the organ are renewed within a relatively short time. Rous and Larimore, of the Rockefeller Institute, have recently made other observations in the same direction, which materially add to our knowledge of the relation of the portal blood to liver maintenance. They find that occlusion of portal branches to a portion of the rabbits' liver leads to a progressive, and ultimately complete, atrophy of the parenchyma in the region deprived of portal blood and to hypertrophy of the hepatic tissue elsewhere, which receives such excess of blood. Three-fourths of the liver may thus be reduced to a fibrous bag within two months, while the remaining fourth attains the bulk of the entire original organ. The atrophy is simple, unaccompanied by obvious degenerative changes or by the least connective tissue replacement. More important, however, it is conditional in nature, failing to progress when the bile-duct from the proliferating liver tissue is ligated and hypertrophy checked in this way. Similar changes occur in the dog, but more slowly. The bile secreted by the part of the liver far advanced in atrophy is almost colourless and may give but a feeble Pettenkofer reaction, though the glycogen in the atrophic cells is about the same in amount and distribution as in the hypertrophic parenchyma. Here we have local atrophy dependent upon a local hypertrophy of the same organ, a condition which contrasts with that form of local hypertrophy well known to pathologists dependent upon destruction, leading to compensatory hypertrophy.

ALCOHOL IN NORWAY AND SWEDEN.

ACCORDING to the *Economic Review* (July 23rd, 1920) steps are being proposed in Norway to introduce a new control over the importation of alcohol in that country. The following paragraph taken from the above journal is of interest in this connexion:—

Norway's import of alcohol.—A Bill has been submitted to the Storting in connexion with commercial and maritime agreements between Norway and France, Portugal and Spain relating to the import of alcohol. It contains the following clauses: 1. Perpetual prohibition of the import of spirits and intoxicants, except for medicinal, technical, and scientific use. 2. Permission to import light wines. 3. Future agreements shall not prevent the import of light wines and alcohol for medical and scientific use from constituting a monopoly with a view to guaranteeing social and fiscal interests. (*Sjöfartstidente*, June 12th.)

In the same number there is another item of news on this question referring to the production of alcohol from wood in Sweden.

The output in Sweden.—At the beginning of 1920 15 sulphite spirit factories, with a yearly output capacity of 10 mill. kg. of 95 per cent. spirit, were working in Sweden. Another 7 factories with a total capacity of 7 mill. kg. a year will be established during 1920. These 12 mill. kg. or 21 mill. lit. of spirit correspond to the calorific power contained in 9500 t. of benzine. (*J. Econ. Européen*, June 12th.)

It would thus appear that the question of alcohol as a power agent is being seriously handled by the Swedish Government. The countries which possess ample sources of water power promise to get the lead in industrial developments, based, amongst other things, on synthetic issues. The question of the possibilities of utilising our own natural power resources at home and in our vast colonial empire is no doubt receiving the careful attention of our engineers and chemists, whose energies in these matters are called for unless we choose to be left behind in the race.

ARTERIO-SCLEROSIS OF THE EYE.

THE ophthalmoscopic signs which point to high general blood pressure or to arterio-sclerosis are common ground to the ophthalmic surgeon and the physician. Clifford Allbutt, Osler, and others have thrown light on the conditions which cause the increased blood pressure. Ophthalmic surgeons, beginning with Marcus Gunn, have studied the ophthalmoscopic signs of it; in recent years P. C. Bardsley and Foster Moore have amplified his observations. In the *British Journal of Ophthalmology* for July this subject is reviewed by P. H. Adams. Ophthalmic surgeons, as he says, see an enormous number of patients between the ages of 40 and 55 for the purpose of ordering presbyopic glasses, and serious responsibility is theirs if, when the symptoms are suspicious, they are content to order a pair of reading glasses without going further into the case. What, then, are the ophthalmoscopic signs which ought to receive special attention? (1) The width and brightness of the central white reflex from the arteries, a decidedly narrow and bright reflex constituting what is generally known as the silver wire appearance, but which Bardsley prefers to call copper wire—it is indicative of very high tension; (2) the indentation or obliteration of the veins where they are crossed by the arteries, showing hardness and loss of transparency in the latter; and (3) kinking of the veins at the crossings. These are early signs, and may be considerably modified by measures directed to diminishing the blood pressure or eliminating the toxic cause of it. Signs of more confirmed disease are actual irregularities in the course of the retinal vessels—what is called beading is sometimes seen—patches of œdema, hæmorrhages, or patches of exudation. Such signs do not necessarily prove that serious intracranial disease is impending, but they decidedly point that way, even in the absence of albumin in the urine. This is shown by some statistics published by Foster Moore.[1] The eye, it has been well said, is the window of the brain. According to Adams, the older the patient with arterio-sclerotic changes the better the prognosis with regard to life, irrespective of the presence of albumin in the urine to a large extent, whilst the younger the patient the worse the prognosis, and especially so if albumin is present in the urine. With regard to the prognosis qua vision, except when the whole of the retinal circulation is stopped, as in thrombosis of the central vein, this depends chiefly on the extent to which the macular region is affected. In cases—and they are quite common—where gross signs of arterio-sclerosis are present but the macula remains free, excellent vision may remain. It is a remarkable fact that there is no constant relation between an excessive systemic blood pressure and a raised intra-ocular tension. Whatever the underlying causes of glaucoma may be, a general increase in the arterial blood pressure is not an essential part of the disease.

[1] Quarterly Journal of Medicine, January, 1917.

THE FEDERATION OF MEDICAL AND ALLIED SOCIETIES.

THE first annual general meeting of this Federation was held on Tuesday last, when a Report was presented and unanimously adopted, reciting the activities of the Federation during its inaugural year of work. Sir Malcolm Morris, the chairman of the Executive Council of the Federation, who presided, pointed out that for the medical profession to speak with a corporate voice and in sympathy with public aims was a necessity of the times, and every constituent element in such a union must gain in strength from mutual support. From the Report of the Federation and from the words of the chairman of the Executive Council, we learn that it is entirely outside the policy as well as contrary to the desire of the Federation to rival or supersede any of the existing organisations, great and small, which have done so much work along general and special lines for the advancement of medicine. The hope is to increase the efficiency of all such activities by providing a round table at which matters concerning the public health of the nation can be discussed, so that a policy may emerge, founded on high ideals of preventive therapeutics, expressing the mean of professional opinion and reconciling these views with national developments. The object is profoundly important, and the chances of accomplishment will be high if general and professional support is forthcoming promptly.

THE house and library of the Royal Society of Medicine will be closed during the whole of August for repairs and cleaning.

WAR-TIME VOLUNTARY HOSPITALS.—Of the innumerable forms of voluntary and generous service rendered to the nation during the war none was more valuable, and few were more unobtrusive, than the establishment and maintenance of private houses and other buildings as hospitals for the sick and wounded. During the four years of the nation's emergency 3244 such hospitals were open for the treatment of officers and men of the army, their distribution in areas being as follows: Aldershot Command, 40; Eastern Command, 687; Irish Command, 105; London District, 352; Northern Command, 439; Scottish Command, 314; Southern Command, 660; Western Command, 637; Guernsey and Alderney District, 6; Jersey Command, 4. The work of the hospitals having now been practically completed, the Army Council, in name of the nation, have placed on record their thanks to those whose generosity made the work possible, and the Council are also issuing an inscribed scroll which may be hung in each building as a permanent memorial of the patriotic purpose to which it was devoted in 1914–19. The inscription is as follows:—

"During the Great War of 1914–1919 this building was established and maintained as a Hospital for British sick and wounded. The Army Council in the name of the nation thank those who have rendered to it this valuable and patriotic assistance in the hour of its emergency, and they desire also to express their deep appreciation of the wholehearted attention which the staff of this hospital gave to the patients who were under their care. The war has once again called upon the devotion and self-sacrifice of British men and women, and the nation will remember with pride and gratitude their willing and inestimable service."

More than 500 scrolls have already been issued, and the remainder will be despatched promptly.

THE MEDICAL REGISTER.

UNTRACEABLE PRACTITIONERS.

WE are requested by the Registrar of the General Medical Council to give publicity to the following lists of medical practitioners whose present addresses are unknown. We deal more fully with the subject on page 253 of this issue. Anyone who finds his or her name included should communicate immediately with the Registrar of the Branch whose address is given at the head of the particular list in which the name occurs:—

1. (*a*)—PRACTITIONERS REGISTERED ON THE ENGLISH LIST.

Communications in regard to this list should be sent to the Registrar of the General Medical Council, 44, Hallam-street, Portland-place, London, W.1.

Addinsell, Augustus Whitehorn, M.B. Edin. 1883, 10, Curzon-street, W.1.
Alexander, Harold George, F.R.C.S. 1914, c/o Grindlay and Co.
Ash, James, L.S.A. 1808, Salcombe, Devon.
Atkinson, John Lancelot, L.S.A. 1886, Stoke Newington-road, N.
Baber, Henry Aitkens, M.R.C.S. 1878, Chipping Sodbury.
Baker, Frederick Relland, M.R.C.S. 1899, Brighton.
Bates, Howard James, M.R.C.S. 1913, Birmingham.
Bawden, John Clemence, L.S.A. 1893, Brixton-road, S.W. 2.
Baylis, Kathleen (Miss), L.M.S.S.A. 1910, Ormskirk, Lancs.
Beale, Thomas Miles, M.R.C.S. 1885, Kew, Surrey.
Beards, Clifford, M.B. 1907 Oxfd., Pewsey, Wilts.
Behan, Jeremiah, L.R.C.S.I. 1885, Lixnaw, co. Kerry.
Beley, George, M.R.C.S. 1899, Sheffield.
Bellew, Thomas Mulholland, M.R.C.S. 1911, Alder Hey Hospital, Liverpool.
Benson, Percy Hugh, M.B. 1873, Aberd., Upper Walmer.
Best, Albert James, L.R.C.S.I. 1912, Belfast.
Bibby, William Ascroft, L.M.S.S.A. 1917, Liverpool.
Biggs, John Maundy, M.R.C.S. 1878, Gosberton.
Birkinshaw, Eileen Elizabeth (Mrs.), L.M.S.S.A. 1911, S. Croydon.
Birks, Alan Herrenden, M.R.C.S. 1912, Belsize Park, N.W.
Black, Kenneth, F.R.C.S. Eng. 1904, Nottingham.
Blackwood, John, L.S.A. 1895, Southsea.
Bloomfield, Herbert Wadmore Gissing, M.R.C.S. 1895, St. Bart.'s Hospital.
Body, Henry Marten, M.R.C.S. 1865, Wimborne.
Bond, Charles Knox, M.R.C.S. 1884, Builth, Wells.
Borrow, Fredk. Chas., M.B. 1901 Lond., Palmer's Green, N.
Braddon, William Leonard, M.R.C.S. 1884, Ealing.
Brandon, Gordon Normanby, M.R.C.S. 1911, Ealing.
Bronstorph, Ernest Ebenezer, L.R.C.S. Ed. 1918, Coburg Court Hotel.
Brown, Jas. Farquharson, L.S.A. 1891, Commercial-road, E.
Buckley, John, L.S.A. 1898, Manchester.
Burton, Charles Frank, *M.C.*, M.R.C.S. 1913, Upper Norwood.
Campain, Joseph Henry, M.R.C.S. 1911, Hull.
Carr, Donald William, M.B. 1893 Camb., c/o C.M.S.
Cassidy, Joseph Lamont, M.D. 1877, Durh., Ramsgate.
Chambers, John Miles, M.R.C.S. 1897, Murtle.
Chambry, Johannes Karel Joseph, M.R.C.S. 1915, Wednesbury.
Charlesworth, George, L.S.A. 1887, Plaistow, E.
Chatterton, Percy, L.S.A. 1866, Stockwell Green, S.W.
Chevreau, Paulin Roger, M.R.C.S. 1914, Redcliffe-square, S.W.
Cieh, Ying-Jue, M.R.C.S. 1915, Chinese Legation.
Clarke, James Fernandez Howard, L.S.A. 1884, Shaftesbury-avenue, W.
Close, Edmund Napier, L.R.C.S.I. 1881, Exeter.
Coates, Henry Honiton, M.R.C.S. 1890, Skerries.
Coathupe, Edwin Wise, M.R.C.S. 1859, Oxford.
Collyer, James Ralph, M.R.C.S. 1884, Playden.
Coxwell, Charles Fillingham, M.D. 1891, Camb., Dulwich.
Cropper, John Hardman, L.R.C.S. Edin. 1883, Bristol.
Crossit, Richard, L.R.C.S. Edin. 1876, Cookstown.
Cuthbertson, John Oswald, M.B. 1901, Oxfd., Droitwich.
Dargan, Patrick Arthur, M.R.C.S. 1916, St. John's Wood.
Davenport, Robert Cecil, M.R.C.S. 1916, Highgate-road, N.W.
Davey, Ernest Llewellyn, M.R.C.S. 1896, Walmer.
Dearden, Harold, M.R.C.S. 1911, Lowndes-street, S.W.
De Kleyn, Geradus Hendricus, L.M.S.S.A. 1916, Hampstead.
Derry, Bartholomew Gidley, M.R.C.S. 1917, Bodmin.
Dos Santos, Manoel Pedro, L.M.S.S.A. 1914, Bayswater, W.
Douty, Robert Joel Cazelet, M.R.C.S. 1912, Eastbourne.
Driscoll, Cornelius Louis, L.M.S.S.A. 1907, Buckingham.
Duka, Albert Theophilus, M.R.C.S. 1892, Bournemouth.
Duncan, Geo. Cuthbertson, L.S.A. 1877, Charing Cross Hotel.
Dvorkovitz, Paul, M.R.C.S. 1914, North Kensington.
Dyson, John Newton, M.R.C.S. 1901, Eastbourne.
Eatock, Eric Richard, M.B. 1911, Manc., Crumpsall, Manchester
Ede, Alfred Gordon, M.B. 1900, Lond., E. Molesey.
Edwards, Arthur Rae, M.R.C.S. 1881, Cirencester.
Ellerton, John, M.D. 1862, St. And., Middlesborough-on-Tees.
Ellis, Robt. Sidney, M.B. 1900 Ed., Aston Cross, Birmingham.
Elrington, Nicolas, M.R.C.S. 1893, Wethersfield.
Embleton, Dennis, M.R.C.S. 1906, Hampstead.
Emlyn, Charles Willmore, M.R.C.S. 1890, Culworth Hall.
Fairchild, George Cranston, M.R.C.S. 1914, Bishop's Stortford.
Fendick, Robt. Geo., M.R.C.S. 1867, Livermead, Torquay.
Fiddian, James Victor, M.R.C.S. 1912, Brentford.
Flaxman, Samuel Christopher Reeve, M.R.C.S. 1909, Peckham.
Forrest, John George Stracey, M.R.C.S. 1876, Winchester.
Foster, Edward Cecil, M.R.C.S. 1902, Oxford.
Fuller, Ashbury Joseph Stuart, M.R.C.S. 1908, Aberystwith.
Gasperine, John Jones, M.R.C.S. 1916, Stockton-on-Tees.
Gauntlett, Harry Leon, M.R.C.S. 1909, Bloxham.
Ghose, Sures Chandra, L.M.S.S.A. 1915, Devonport.
Ghosh, Abani Mohan, M.B. 1915 Edin., Brighton.
Gilliam, Thomas Henry, L.S.A. 1876, Tenbury.
Gilruth, George Ritchie, L.R.C.S. Edin. 1865, Edinburgh.
Girgis, Melik, L.M.S.S.A. 1918, Hampstead.
Gott, Jeffrey, L.S.A. 1897, Ringwood.
Gunning, Montague Shirley Wyatt, L.R.C.P. Edin. 1888, Hunter's Bar.
Gupta, Panna Lal, M.B. 1915 St. And., c/o Thos. Cook & Son.
Hale, Edmund Thomas, L.S.A. 1870, Chiswick.
Hall, Ethel Margaret Eades, L.M.S.S.A. 1911, Lancaster.
Hampson, Joseph, M.R.C.S. 1878, Atherton, Manchester.
Hanworth, (Mrs.) Honoria Josephine, M.R.C.S. 1915, Russell-square, W.C.
Harding, Geoffrey Duncan, M.B. 1914 Liverpool, Claughton.
Hardy, George Wilfrid, L.R.C.P. 1906, Sutton.
Harrison, Percy Booth, M.R.C.S. 1906, Dalston.
Harvey, Thomas Reginald, M.R.C.S. 1909, Avebury.
Hawkins, Charles Thomas, M.R.C.S. 1908, Garnant.
Heap, Edward Fortrey George Turnbull, M.R.C.S. 1901, St. Asaph.
Hill, Richard Athelstane Parker, M.D. 1913 Camb., Harrow.
Hocken, Herbert Castlemain, L.S.A. 1901, Barnsley.
Hodgkinson, Isaiah, M.D. 1913 Durh., South Shields.
Hodson, Ronald, *M.C.*, M.R.C.S. 1912, Temple, E.C.
Hooper, Alfred, M.D. 1904 Durh., Gaddesby.
Hope, Percy Lake, M.R.C.S. 1899, Hampton Wick.
Houchin, Edwin Augustus, L.S.A. 1902, Cambridge-gardens, W.
Hughes, Sidney, M.R.C.S. 1897, Clapham.
Hulbert, Henry Harper, M.R.C.S. 1889, Queen's-gardens, W.
Hull, Henry Woolcott, M.R.C.S. 1863, Southend-on-Sea.
Ingle, Arnold Clarkson, M.D. Camb. 1892, Harpenden.
Ingle, Laurence Manfield, M.R.C.S. 1914, Harpenden.
Jackson, George Maudsley, M.R.C.S. 1915, Clifton.
Jacobsen, George Oscar, M.R.C.S. 1889, Alford.
James, Walter Evelyn, M.R.C.S. 1890, Derby.
Jay, Frederick Fitzherbert, M.D. St. And. 1883, Constitutional Club, W.C.
Johnston, Lambert Arthur Wellesley, M.R.C.S. 1901, Edgbaston.
Jones, Arthur Reginald, M.R.C.S. 1897, Leigh.
Jones, Edward Shirley, M.R.C.S. 1897, Liverpool.
Jones, Samuel Walter Maslen, M.R.C.S. 1914, Sandown, I.W.
Joynson, Gerald George, M.R.C.S. 1894, Southport.
Judah, Nathanael Joseph, M.B. Edin. 1911, Ash Green.
Kameneff, Vladimir, M.R.C.S. 1916, University College Hosp.
Kebbell, Chas. Fredk. Vivian, M.R.C.S. 1909, West Ealing.
Keys, Robert Atchison, F.R.C.S. Edin. 1874, Wolverhampton.
Khan, Haji Hyderali, L.M.S. Bombay 1914, Guy's Hospital.
Kilgour, Wm. Rob., M.R.C.S. 1906, Cromwell-road, S.W.
Kingsford, Percival, L.S.A. 1869, Queensberry-place, S.W.
Knobel, William Bernard, M.D. Camb. 1905, Belbroughton.
Knowles, Cyril Reginald, *M.C.*, M.B. Leeds 1916, Bridlington.
Knyvett, Hugh Ferrars, L.R.C.P. Edin. 1889, Ridgemount-gardens, W.C.
Langley, John Inman, M.R.C.S. 1898, Coventry.
Lazanas, Elias Panagis, M.R.C.S. 1916, Harley-street, W.
Lea-Wilson, Basil Hugh Campbell, M.R.C.S. 1911, Gainsborough.
Ledger, Lloyd Kirkwood, M.R.C.S. 1917, Hereford.
Lemon, Edward Henry, M.R.C.S. 1889, Bournemouth.
Lomax, Montague, M.R.C.S. 1883, Brighton.
Low, Charles Arthur, L.S.A. 1877, St. Leonard's-on-Sea.
Lowe, Charles Edwin Maximilian; M.B. 1892 Vict. U., Crewe.
Lynes, John, L.S.A. 1884, Kensington, W.
MacDonald, Charles Eric Wells, M.R.C.S. 1908, Ilford.
McGlynn, James, L.R.C.S. Edin. 1898, Castlederg.
McQueen, Robert Martin, M.R.C.S. 1903, Boundary-road, N.W.
Manders, Horace, F.R.C.S. Eng. 1878, Harley-street, W.
Master, Jehangir Ardeshir, L.M.S. 1905 Bombay, Upper Holloway, N.
Matthews, George William, M.R.C.S. 1912, Maxwelltown.
Maugham, William Somerset, M.R.C.S. 1897, Mount-street, W.
Maunsell, Frederick Wyndham, M.R.C.S. 1916, c/o Nat. Mortgage and Agency Co. of N. Zealand.
May, Francis Hollingsworth, L.S.A. 1890, Birmingham.
Menon, Puthiyaveettil Narayana, M.R.C.S. 1917, Royal Eye Hospital, Manchester.
Mercer, William Bracewell, M.B. 1892 Camb., Southbourne.
Meyer, Gustav, L.M.S.S.A. 1912, Rosebery-avenue, E.C.
Mitchell, Arthur Oscar, M.R.C.S. 1910, Herne Hill.
Mitchell, George Stanley, L.M.S.S.A. 1916, Herne Hill.
Moore, Benjamin, M.R.C.S. 1907, Oxton.
Morgan, Ethel Mary, M.B. 1910 Lond., Weymouth.
Morrell, Reginald Arthur, M.R.C.S. 1908, Harley-st., W.
Morris, Frederick Temple, M.R.C.S. 1892, Cardiff.
Morrison, Harold, L.M.S.S.A. 1915, Ealing.
Morton, Samuel, M.R.C.S. 1863, Sheffield.
Moxey, Percy, L.S.A. 1906, Dorchester.
Moxon, Alban Henry, M.R.C.S. 1886, Catford, S.E.
Moxon, Alfred, L.S.A. 1886, Kenilworth.
Moxon, Herbert William, M.R.C.S. 1906, Matlock.
Murray, William, M.D. 1862 Durh., Newcastle-on-Tyne.
Nash, Charles Henry, L.R.C.P. Edin. 1903, Mortimer.
Neil, William Fulton, M.R.C.S. 1908, Endsleigh-gardens, N.W.
Noel, Hubert Lewis Clifford, M.R.C.S. 1910, Chingford.
Nolan, Bryan Joseph, L.M.S.S.A. 1910, Southgate.
Norton, Algernon Charles Wodehouse, L.S.A. 1864, Chepstow-villas, W.
Nunn, James Henry Francis, M.R.C.S. 1896, Balham High-road, S.W.
Oakes, Arthur, M.R.C.S. 1853, Birmingham.
O'Brien, Russell James, M.B. 1879 Edin., Maida Hill, W.
O'Donovan, William James, M.R.C.S. 1909, Bow, E.
Oglesby, Henry Newsome, M.R.C.S. 1883, Perry Bar, Birmingham.
Paley, Charles Edward Hewitt, M.R.C.S. 1910, Nottingham.
Palmer, Ambrose Myrie, M.R.C.S. 1872, Chesterfield.
Pank, Philip Esmond Durrell, M.R.C.S. 1916, Chandler's Ford.
Pannett, Chas. Aubrey, M.B. 1906 Lond., Church End, Finchley.

I. (*a*)—*PRACTITIONERS REGISTERED ON THE ENGLISH LIST—(Continued).*

Pantcheva, (Mrs.) Elliot Jessie, M.B. 1911 Durh., Judd-st., W.C.
Parker, George Fisher, L.S.A. 1860, Cuckfield.
Perkins, Whitfield, M.D. 1886 Durh., Port Isaac.
Perry, Walter Dymock, M.R.C.S. 1895, Earl's Court, S.W.
Pfeiffer, Albert, M.R.C.S. 1911, Wimpolé-street, W.
Pill, Stanley Victor Percy, M.R.C.S. 1915, Ladbroke-grove, W.
Place, Thomas Lloyd, M.R.C.S. 1865, Oxford-terrace, W.
Pocock, Theodore Charles, M.B. 1906 Lond., Hove.
Polson, James Ronald, M.D. 1903 Birm., Highcliffe, Christchurch.
Ponniah, Sengarapillia, L.R.C.P. Edin. 1914, c/o Surgeons' Hall.
Poole, Kenneth Worsley, M.B. 1890 Durh., Addison Bridge, W.
Pooler, John Read, M.B. 1903 Birm., Westcliffe-on-Sea.
Potts, Matthew Bertram, M.B. 1906 Manc., West Vale.
Price, William Matthews, M.R.C.S. 1896, Christchurch.
Prince, Hugh Tennant, M.R.C.S. 1893, Boston Spa.
Prior, Edward Thurlow, L.S.A. 1877, Loddon.
Provis, Francis Lionel, M.R.C.S. 1868, Hanover-square, W.
Race, Edmund, M.B. 1893 Durh., South Shields.
Ramsbottom, Charles Henry Geoffrey, M.D. 1897 Vict. U., Whitchurch.
Reed, Henry Albert, L.S.A. 1884, c/o O. S. Navigation Co.
Reeve, Edwd. Gordon, M.R.C.S. 1912, Queen's Gate, S.W.
Reid, Sydney Jessie Scott, M.R.C.S. 1913, Chenistongardens, W.
Rennie, William, M.R.C.S. 1889, King's Heath.
Rice, Hubert Richard, L.S.A. 1897, c/o Bank of Adelaide.
Roberts, Hugh Corrall, M.R.C.S. 1893, Melton Mowbray.
Roberts, John Dungey, M.R.C.S. 1869, Ealing.
Roberts, Joseph Harry, M.B. 1891 Edin., Hastings.
Roberts, Richard Cadwaladr, M.R.C.S. 1906, Wymeswold.
Robinson, Edmund, M.R.C.S. 1867, Leeds.
Robinson, Norman Battye, M.R.C.S. 1888, Henley-on-Thames.
Robinson, Wm. Newman, M.D. 1868 Q.U.Irel., Ealing Common.
Rogers, Henry Cripps, M.R.C.S. 1865, Lympstone.
Rogerson, Wm. Albert, M.R.C.S. 1914, Leyland, Preston.
Rosenberg, Sophie Sarah, M.R.C.S. 1917, Queen Mary's Hosp. for the East End.
Rowbotham, Edgar Joseph, M.R.C.S. 1894, Clapham Common.
Royle, Elsie Marsh, M.D. 1909 Manc., Wigan.
Ruel, Charles Percival, M.R.C.S. 1889, Southsea.
Rutledge, Wm. Edwd., M.R.C.S. 1900, R.A.M.C., Blackpool.
Ryan, Thomas, L.S.A. 1882, Kilkenny.
Scott, Ralph Robert, L.R.C.S. Irel. 1853, Bath.
Seagrove, George Mervyn, L.S.A. 1906, Etchingham.
Sear, John Taylor, M.R.C.S. 1896, Enfield.
Seddon, Allan, M.B. 1911 L'pool, c/o Cox and Co.
Seddon, Harold, M.B. 1912 L'pool, Liverpool.
Seon, Greville Ewing, M.R.C.S. 1862, Folkestone.
Shafi, Mian Mohammad, L.M.S.S.A. 1917, London Hospital, E.
Shah, Bager Zainulabiedin, M.R.C.S. 1914, Miller Hospital, S.E.
Sharpe, Claudius Galen Kaye, M.B. 1910 Leeds, Luton.
Shillingford, Henry Bartlett, L.S.A. 1890, Camberwell, S.E.
Shimberg, Mandell, M.R.C.S. 1917, London Hospital, E.
Simpson, George Barthorpe, L.R.C.P. Ed. 1897, Smethwick.
Sloper, John Smith, M.R.C.S. 1913, Victoria Hosp. for Children, Chelsea.
Snowdon, Alan Richmond, M.R.C.S. 1911, Scotswood.
Somerset, Vere Edward, M.R.C.S. 1911, Finchley, N.
Sommer, Sarah Charlotte Eliza, M.B. 1905 Lond., Hoveringham.
Southern, Francis Gerald, L.S.A. 1884, Llandebie.
Speedy, Robert George Dunell, M.R.C.S. 1888, Bedford
Spencer, John Heatley, M.B. 1906 Lond., Lower Seymour-st., W.
Spillane, Jas. Chas., M.B. 1895 Lond., Royal Societies Club.
Stanley, Charles James, M.R.C.S. 1888, Ealing.
Statter, Henry Bellamy, M.R.C.S. 1890, Bournemouth.
Steel, Henry Golege, L.M.S.S.A. 1912, Southampton.
Stewart, Hugh George, M.D. 1901 Glasg., Normanton.
Stolterfoth, Charles Sigismund, M.R.C.S. 1903, Wallingford.
Sutcliffe, Alan Lee, M.B. 1914 Camb., Burley-in-Wharfedale.
Swindale, Henry Vernon, L.S.A. 1900, Southwick-place, W.
Tetley, Frederick Harrison, L.R.C.S. Edin. 1877, Rugby.
Thirkill, Henry, L.S.A. 1885 Leeds
Thompson, George Hobson, M.R.C.S. 1883, Buxton
Thompson, Maitland, M.R.C.S. 1884, Hemel Hempstead.
Thomson, Arthur Peregrine, M.B. 1915 Birm., Northfield.
Thorburn, Ian Campbell, L.S.A. 1905, Birkenhead.
Thorpe, George Elisha Knight, L.S.A. 1869, Sheffield.
Titterton, Herbert Charles, M.R.C.S. 1902, Hampden Club, N.W.
Todd, John, M.R.C.S. 1865, Mile End-road, E.
Todd, William Fentham, M.R.C.S 1907, New Malden.
Toumin, Ernest William, M.R.C.S. 1908, St. John's Wood.
Tripp, Basil Hubert Howard, M.R.C.S. 1900, Southwold.
Tucker, Sydney Arthur, M.B. 1909, Lond., Bromley.
Wade, Albert Holland, L.S.A. 1900, St. John's Wood, N.W.
Waldron, Charles Edward M.R.C.S. 1907, London Hospital, E.
Walker, Ernest Ronald, M.R.C.S. 1901, Bromley.
Walker, George, M.R.C.S. 1889, Forest Hill, S.E.
Walker, Jas., M.R.C.S. 1867, Hull.
Walker, Lewis Augustus, M.R.C.S. 1899, Lee-on-the Solent.
Wallace, Gerald Douglas Hamilton, M.R.C.S. 1907, Newtown.
Waltenburg, Theophilus Ralph, L.S.A. 1904, Manchester.
Walter, Ernest William, M.R.C.S. 1878, Stockwell, S.W.
Walters, Enid Margaret, M.B. 1908 Lond, Broadstone, Dorset.
Warburton, John Rollo Noel, M.R.C.S. 1914, West Dulwich.
Warburton, Joseph Wilkinson, M.R.C.S. 1864, Bournemouth.
Ward, Frederic Henry, M.R.C.S. 1865, Ealing.
Warden, Horace, Frederick William, M.R.C.S. 1913, Lexham-gardens, W.
Watson, John Wallace, M.S. 1887 R.U. Irel., Ivanhoe Hotel, W.C.
Webb, Frank, M.R.C.S. 1890, Leigh.
Weizmann, (Mrs.) Vera Rebecca, M.B. 1912 Manch., Rusholme, Manchester.
West, Richard Milbourne, M.R.C.S. 1891, Leicester.
White John Bradshaw, M.D. 1869 Q.U. Irel., Upper Clapton, N.E.
Wilkin, Loftus Ralph, M.R.C.S. 1882, York.
Wilkinson, Lancelot Craven, M.R.C.S. 1914, St. Bart.'s Hospital.
Williamson, William Pettigrew, L.S.A. 1899, Royal London Ophthalmic Hospital.
Wilson, Chas. Wm., M.R.C.S. 1874, Bury St. Edmunds.
Wilson, Mervyn Seppings, L.S.A. 1892, Chippenham.
Wilson, William Bernard, M.R.C.S. 1915, Hackney, E.
Wilton, Stanley, M.D. 1903, Oxfd., East Liss.
Winter, Frank, M.B. 1886 Durh., Newcastle-on-Tyne,
Wolfenden, Richard Norris M.D. 1884 Camb., Sidcup.
Wood, John Askey, M.R.C.S. 1890, Northampton.
Woods, Charles Murray, L.S.A. 1902, Charleville-road, W.
Woolham, Josiah Gilbert, M.B. 1901 Vict. U., Manchester.
Wylie, James Thompson Roy, M.R.C.S. 1892, Sallins.
Young, Campbell, M.R.C.S. 1916, West Worthing.
Young, Roy Frew, M.B. 1909 Camb., Glasgow.
Zarchi, Smerka, L.M.S.S.A. 1913, Russian Law Bureau.

I. (*b*)—PRACTITIONERS REGISTERED ON THE COLONIAL LIST.

Communications in regard to this list should be sent to the Registrar of the General Medical Council, 44, Hallam-street, Portland-place, London, W.1.

Abbott, Nigel Basil Gresley, M.B. 1916 Adelaide, Cheltenham Gen. Hosp.
Bharucha, Kaikhusru Byramji, L.M.S. 1914 Bombay, Brighton.
Bharucha, Nadir Nasserwanji, L.M.S. 1909 Bombay, Earl's Court, S.W.
Bird, (Mrs.) Mary Adelaide, M.D. 1915 McGill, Gerrard's Cross.
Birrell, William Alexander Hamilton, M.B. 1915 Melb., c/o Bank of Victoria, E.C.
Biswas, Lalit mohon, L.M.S. 1911 Calcutta, c/o T. Cook & Son.
Black, Geoffrey Howard, M.B. 1916 Adelaide, Birmingham.
Blair, Archibald Turner Macleod, M.B. 1906 N. Zealand, Hammersmith Infirmary, W.
Blashki, Eric Philip, *M.C.*, M.B. 1915 Sydney, c/o Bank of Australasia E.C.
Bretherton, Albert Wilber, M.B. 1915 Melb., Bristol.
Brown, Chester Petitt, M.B. 1913 Toronto, No. 4 Canadian Gen. Hosp.
Brownridge, Thomas Roy, M.D. 1916 Man., c/o Army Post Office.
Casserly, Michael Joseph, M.B. 1908 Toronto, c/o Messrs. Holt and Co.
Chaliha, Lakshmi Prasad, L.M.S. 1895 Calcutta, c/o Thos. Cook and Son.
Chand, Amir, M.B. 1913 Punjab, c/o Messrs. H. S. King and Co.
Chohan, Noormahomed Kasembhoy, L.M.S. 1913 Bombay, Cromwell-road, S.W.
Costain, Wm. Alfred, M.B. 1911 Toronto, Lancaster-gate, W.
Das, Premananda, L.M.S. 1899 Calcutta, Edinburgh.
Elliott, Byron Stevenson, M.D. 1907 Toronto, Witley Camp.
English, Robert Joseph, M.B. 1909 Sydney, c/o Bank of N.S. Wales.
Fleming, Thomas Gordon, *M.C.*, M.B. 1909 Adelaide, Torrington-square, W.C.
Fraser, Alexander Clow, M.B. 1915 Melb., Fovant, Wilts.
George, Thomas Edwin, M.B. 1912 Melb., c/o N. Bank of Australasia.
Ghosh, Kiranendu, L.M.S. 1912 Calcutta, c/o T. Cook & Son.
Godby, William Heitland, M.B. 1914 Melb., South Hampstead, N.W.
Griffiths, Ada Isabella Valentine, M.B. 1905 Melb., Evelina Hospital, S.E.
Guest, Edna Mary, M.B. 1910 Toronto, Piccadilly, W.
Hamilton, George Harold Ross, M.B. 1910 Toronto, Swansea.
Hartridge, Oliver Keith, M.B. 1912 Melb., c/o Bank of N.S. Wales.
Hassan, Syed, L.M.S. 1900 Punjab, c/o H. S. King and Co.
Hawthorne, Wm. Stewart, M.B. 1915 Sydney, c/o Holt and Co.
Hewitt, Samuel Ross De Lap, M.B. 1914 Toronto, Woodcote Park, Epsom.
Hodgson, Ronald George Keith, M.B. 1915 N. Zealand, c/o Bk. of N.S. Wales.
Howlett, George Patrick, M.C.P. & S. Ont. 1909, Woodcote Park Epsom.
Jeffries, Lewis Wibmer, O.B.E., M.B. 1907 Adelaide, Hackney-road, N.E.
Joyce, Cecil Roy, M.D. 1914 McGill, Queensboro'-terr W.
Kamdin, Rustom Dossabhoy, L.M.S. 1912 Bombay, c/o Thos. Cook and Son.
Karaka, Dhanjishaw Phirozshaw, L.M.S. 1912 Bombay. Kingswood, Bristol.
Kinsella, Malcolm Daniel Boyd, M.D. 1912 Ont., Prince of Wales' Hosp., N.
Kneebone, John Le Messurier, M.B. 1911 Adelaide, Torrington-square W.C.
Laskari, Phiroz Framji, M.B. 1914 Bombay, Brighton.
Lawyer, Annie Amanda, M.D. 1888 Ont., Dawlish.
Leacy, Patrick, M.B. 1916 Ont., Witley Camp.
Leith, George, M.D. 1917 Man., Witley Camp.
Longley, Israel Fletcher, M.C.P. & S. Sask. 1911, Northampton.
McCaffrey, Ernest Moore, M.B. 1916 Sydney, Swansea.
McDonald, Sydney Fancourt, M.D. 1913 Melb., c/o Bk. of Victoria.
Messenger-Pearson, (Mrs.) Stella May, M.D. 1904 Dalhousie, Russell-square, W.C.
Monahan, Richard Joseph, L.M.S. 1907 N. Scotia, P.M.Bd., Torrington-square, W.C.
O'Leary, Ralph Daniel, M.B. 1906 Melb., Chatham.
Oonvala, Jehangir Hormusji, L.M.S. 1910 Bombay, c/o Thos. Cook and Son.
Palmer, John Ernest, L.M.S. 1915 N.B. Co., c/o Bk. of Montreal.
Pettit, Thomas Harold, M.B. 1913 N. Zealand, c/o Bk. of N. Zealand.
Poduval, Ambadi Rama, M.B. 1912 Madras, Birkenhead.
Purves, Allan Melrose, *M.C.*, M.B. 1909 Sydney, Golder's Green.
Rau, B. Kesava Narayana, M.B. 1910 Madras, Oxford.
Robertson, Herbert Donald, M.B. 1911 N. Zealand, Gordon-square, W.C.
Rutter, John Hemphill, M.B. 1907 Melb., c/o Union Bank of Australia.
Sabnis, Ramchandra Dattatraya, M.D. 1915 Bombay, Hampstead, N.W.
Shaw, Thorne William, M.D. 1917 Man., Bellshill.
Short, Hugh, M.B. 1914 N. Zealand, Brompton Hosp., S.W.
Sleeman, Jas. Garnet, M.B. 1915 Melb., c/o Bank of Victoria.
Talati, Jehangir Manekji, M.B. 1913 Bombay, Brighton.
Thompson, Leslie Joseph, M.B. 1912 N. Zealand, Edinburgh.
Thompson, William Barbour, M.B. 1913 Sydney, Lewisham.
Vaidya, Jagannath Balkrishna, L.M.S. 1910 Bombay, c/o Thos. Cook and Son.
White, James Renfrew, M.B. 1912 N. Zealand, c/o Bank of New Zealand.
Woodhouse, Philip Randal, *D.S.O.*, M.B. 1910 N. Zealand, West Kensington, W.

I. (c)—PRACTITIONERS REGISTERED ON THE FOREIGN LIST.

Communications in regard to this list should be sent to the Registrar of the General Medical Council, 44, Hallam-street, Portland-place, London, W.1.

Bertrand, Paul Aime Albert Alex., M.D. 1900 Brussels, Connaught-road, E.
Compeeren, Emile Felix, M.D. 1884 Louvain, Wallington.
Curioni, Fernando, M.D. 1901 Turin, Shaftesbury-avenue, W.
De Bie, Joseph, M.D. 1887 Louvain, Liverpool.
de France, Maurice, M.D. 1908 Ghent, Coventry.
de Francisco, Donato, M.D. 1898 Bologna, Torrington-sq., W.C.
Delbastee, Georges, M.D. 1887 Brussels, Hampstead, N.W.
De Naeyer, Theodore, M.D. 1886 Louvain, Brixton Hill, S.W.
de Neeff, Cesar Victor Emmanuel, M.D. 1902 Brussels, Reading.
Druart, Camille Nicolas, M.D. 1902 Brussels, c/o Cunard S.S. Company.
Green, Fredk., M.D. 1906 Naples, Tottenham Court-road, W.
Grijspeerdt, Simon Benoit, M.D. 1884 Ghent, Forest Gate, E.
Haulet, Leon, M.D. 1898 Liege, Glasgow.
Hermant, Ernest, M.D. 1901 Brussels, King Albert's Hosp., N.
Hottlet, Alfred, M.D. 1886 Louvain, Leigh.
Kemel, Richard, M.D. 1902 Louvain, Liverpool.
Kennis, Theodore, M.D. 1881 Louvain, Westmorland-st., W.
Kesteloot, Michel, M.D. 1905 Ghent, Hadley Woods.
Lauwens, Rene Marie Louis Ghislain, M.D. 1905 Louvain, School of Tropical Medicine, E.
Lemaire, Paul Albert, M.D. 1906 Liege, Folkestone.
Loonus, Hector, M.D. 1894 Louvain, Brixton-hill, S.W.
Maertens, Louis Joseph, M.D. 1880 Louvain, Maidstone.
Mans, George, M.D. 1906 Brussels, Woburn-place, W.C.
Merchie, Edmond, M.D. 1900 Louvain, Brixton-hill, S.W.
Mersch, Edmond, *M.D. 1889 Brussels, Woolwich, S.E.
Moreaux, Edouard, M.D. 1894 Brussels, Croydon.
Murdoch, John, M.D. 1911 Brussels, Guilford-street, W.C.
Muyshondt, Henri, M.B.E., M.D. 1899 Brussels, Birtley.
Pattyn, Pierre Antoine Camille, M.D. 1888 Louvain, Farningham.
Renoirdie, Henri, M.D. 1902 Brussels, Bristol.
Sambon, Louis, M.D. 1891 Naples, Shoot-up-hill, N.W.
Schmidt, Roger, M.D. 1905 Louvain, Warwick-street, S.W.
Seeuwen, Henri, M.D. 1888 Ghent, Manchester.
Snocks, Maurice Edouard Remi, M.D. 1910 Ghent, Sidcup.
Thielmans, August, M.D. 1909 Louvain, Talgarth.
Van de Male, George, M.D. 1894 Ghent, Streatham.
Van den Wyngaert, Francis, M.D. 1895 Louvain, Halifax.
Van der Beken, Pierre Mathieu, M.D. 1906 Louvain, Mansfield.
Van der Voordt, Alfred, M.D. 1898 Brussels, King Albert's Hospital, N.
Van Driessche, Albert, M.D. 1910 Louvain, Manchester.
Van Heteren, Clemens, M.D. 1892 Louvain, Teignmouth.
Van Hyfte, Henri, M.D. 1905 Brussels, Birmingham.
Van Mosuenck, Auguste, M.D. 1896 Louvain, Manchester.
Van Raemdonck, Joseph Leonard, M.D. 1909 Louvain, Walmersley, Bury.
Verscheure, Polydore, M.D. 1880 Louvain, Argyle-sq., W.C.
Wigny, Charles, M.D. 1897 Liège, Upper Bedford-place, W.C.
Wulfaert, Franz, M.D. 1912 Brussels, Liverpool.

II.—PRACTITIONERS REGISTERED ON THE SCOTTISH LIST.

Communications in regard to this list should be sent to the Registrar of the Scottish Branch Council, 20, Queen-street, Edinburgh.

Adami, John, Scottish Triple 1917, Sunderland.
Aitken, John Stevenson, Scottish Conjoint 1882, Wakefield.
Angus, William Stephen, M.B. Aberd. 1908, Arbroath.
Annequin, Edgar, Scottish Triple 1916, Glasgow.
Armstrong, Janet, M.B. Edin. 1910, Swansea.
Arnold, John Irwin, Scottish Triple 1912, Enniscorthy.
Baird, John Bruce, *M.C.*, M.B. Glasg. 1910, Glasgow.
Baldwin, Godfrey William Waller de Courcy, Scottish Triple 1889, Liverpool.
Barseghian, (Basil) Mesroob, M.B. Edin. 1914, Manchester.
Bell, George, M.B. Edin. 1892, Belfast.
Bhattacharjee, Monindra Nath, M.B. Glasg. 1917, Glasgow.
Bidie, Evan, Scottish Triple 1902, Braemar.
Birnie, Charlotte Murdoch, M.B. Edin. 1911, York.
Bowie, Thomas Chalmers, M.B. Edin., 1915, Edinburgh.
Braid, (Mrs.) Elizabeth Grace, M.B. Aberd. 1915, Keighley.
Breen, Michael, Scottish Triple 1895, Birmingham.
Brodziak, Edward Lewis Gordon, M.B. Edin. 1914, London.
Bronstorph, Ernest Ebenezer, Scot. Triple 1918, Edinburgh.
Brown, Arthur Campbell, M.B. St. And. 1909, Teignmouth.
Brown, Duncan Francis, M.B. Glasg. 1893, Greenock.
Brown, Francis Frederick, M.B. Aberd. 1913, London
Buckley, Lucy, Scottish Triple 1898, Oldham.
Budler, Arthur Harold de Wet, M.B. Edin. 1916, Edinburgh.
Burge, Arthur Macafee, Scottish Triple 1915, Edinburgh.
Cameron, James Thomson, M.B. Aberd. 1913, Aberdeen..
Cameron, Robert Evan, M.B. Edin. 1914, Edinburgh.
Canekeratne, Walter Edmond, M.B. Edin. 1917, Edinburgh.
Carroll, Patrick, Scottish Triple 1902, Manchester.
Carwithen, (Mrs.) Golfina Maude, M.B. Edin. 1901, Standeford.
Case, Henry William, M.B. Edin. 1893, Manchester.
Chambers, Henry Francis Townshend, Scottish Triple 1889, Surbiton.
Chandler, Fredk. Chas., *M.C.*, M.B. Edin. 1914, Edinburgh.
Chatterjee, Haripado, Scottish Triple 1910, Whalsay.
Christie, Allan Leslie, M.B. Edin. 1912, Edinburgh.
Clarke, Allan Wise, Scottish Triple 1887, Liverpool.
Clayton, William Arthur, Scottish Triple 1898, Preston.
Collett, Edith Grace, Scottish Triple 1892, Sidmouth.
Collins, Henry Frank, Scottish Triple 1907, Edinburgh.
Combe, Frederick Orloff, M.D. Edin. 1889, Bexhill-on-Sea.
Conley, Wallace MacCallum, M.B. Glasg. 1913, Glasgow.
Cook, Oswald, M.B. Edin. 1912, Birmingham.
Cooke, Agnes Elizabeth Mary, M.B. Glasg. 1914, Greenock.
Cosgrove, Charles, Scottish Triple 1913, Edinburgh.
Coutts, Edgar Nesbitt, Scottish Triple 1904, London.
Cowe, John, Scottish Triple 1889, Liverpool.
Craik, William, M.B. Glasg. 1892, Goldthorpe.
Cumming, Robert Scott, *M.C.*, M.B. Aberd. 1915, Aberdeen.
Dakers, Bernard William, Scottish Triple 1906, Brigg.
Dalal, Muljibhai Kuberdas, Scottish Triple 1914, Sheffield.
Davies, George Augustus, M.D. Edin. 1905, Musselburgh.
Davies, Philip Lys, M.B. Edin. 1912, Chislehurst.
Davies-Jones, Charles William Saunderson, M.B. Edin. 1915, Edinburgh.
Davis, Bernard Langridge, O.B.E., M.B. Aberd. 1915, Aberdeen.
Devane, Thos. Francis, Scottish Triple 1892, Oakengates.
Diack, Patrick William, M.B. Aberd. 1891, London.
Dickson, Edward Demetrius Darziel, M.B. Edin. 1918, Edinburgh.
Dickson, James, *M.C.*, M.B. Edin. 1916, Edinburgh.
Doran, Winnifrid Mary, Scottish Triple 1913, Belfast.
Dorset, Richard, Scottish Triple 1914, Edinburgh.
Drummond, Russell John, M.D. Edin. 1894, Edinburgh.
Drynan, Alex. Erskine, *M.C.*, M.B. Edin. 1911, Edinburgh.
Elliott, John, Scottish Triple, 1897, Beal.
Enright, Maurice Hickey, Scottish Triple 1896, Wigan.
Esterman, Tobius, M.B. St. And. 1915, Dundee.
Evans, Thomas Henry, Scottish Triple 1897, Liverpool.
Ewart, Edward, M.D. Edin. 1902, Gullane.
Ewart, John Hoggan, M.D. Edin. 1897, Hythe.
Fearnside, Clarence Forbes, M.B. Aberd. 1889, Conway.
Ferguson, John Potterton, Scottish Triple 1888, Dunedin.
Findlay, Harry Taylor, M.B. Glasg. 1915, Glasgow.
Fleming James Hamilton, Scottish Triple 1899, Paisley.
Fletcher, Duncan, Scottish Triple 1895, Portree.
Forsyth, William, Scottish Conjoint 1875, Abingdon.
Gadgil, Bhaskar Balwantrao, M.B. Edin. 1916, Edinburgh.
Garewal, Ajab Singh, M.B. Edin. 1917, Edinburgh.
Geale, William James, Scottish Triple 1906, Edinburgh.
Gemmill, William, M.B. Glasg. 1901, West Bridgford.
Giblin, Arthur Leslie, Scottish Triple 1916, Edinburgh.
Gillespie, John Marchbank, *M.C.*, M.B. Edin. 1911, Swansea
Girvan, Alexander, M.D. Glasg. 1904, London.
Glaister, Joseph, M.B. Glasg. 1905, London.
Goldberg, Harry Raephal, M.B. Edin. 1918, Haddington.
Gordon, William Gordon, M.B. Aberd. 1905, Malvern.
Granger, Robert Fawcitt, Scottish Triple 1899, Liverpool.
Grant, George Reginald, *M.C.*, M.B. Edin. 1913, Edinburgh.
Gray, David George, M.B. Edin. 1907, Belfast.
Gray, Francis Audubon, Scottish Triple 1902, Armagh.
Griffiths, Alfred Thomas, Scottish Triple 1897, Cleckheaton.
Gwynne, Joseph Robert, Scottish Triple 1913, Liverpool.
Harley, Richard James, Scottish Triple 1903, London.
Harmer, Mary, Scottish Triple 1895, London.
Hawthorne, Walter Llewellyn, Scottish Triple 1893, Lucan.
Hay, Jane Elizabeth, M.B. Edin. 1916, Dumfries.
Haynes, Harold Cranwell Aloysius, *M.C.*, Scottish Triple 1916, Edinburgh.
Henderson, Janet Fraser, M.B. Glasg. 1915, Glasgow.
Henderson, John Dunlop, M.B. Aberd. 1904, Aberdeen.
Henderson, Norman Keane, M.B. Edin. 1916, Southport.
Hennessy, Joseph Martin Reeves, Scottish Triple 1912, London.
Henry, David Colvin, M.D. Edin. 1910, Great Yarmouth.
Hetherington, George Mundell, M.B. Glasg. 1916, Tillicoultry.
Heyliger, Ernest Denny Scott, M.B. Glasg. 1892, Blackburn.
Hickey, Daniel John, Scottish Triple 1911, Blaengarw.
Hill, James Rowland, M.B. Edin. 1907, Coleraine.
Hope, Charles Milburn, M.B. Glasg. 1900, Market Drayton.
Hopkins, William Edward, Scottish Triple 1909, Carnarvon.
Huie, Henry Greville, M.D. Edin. 1393, Droxford.
Hunter, John Arnold, M.B. Edin. 1896, Whitehead.
Hunter, John Henry Graham, M.B. Edin. 1913, Edinburgh.
Hutchison, Alice Marion, M.B. Edin. 1905, Edinburgh.
Hyam, Samuel Priestly, M.B. Edin. 1894, Edinburgh.
Jackson, George Fortesque, Scottish Triple 1894, Sutton Coldfield.
James, Arthur Edwin, Scottish Triple 1914, Edinburgh.
Jeffcoat, Leslie Fraser Eiloart, M.B. Edin. 1914, London.
Johnson, Frank Davidson, Scottish Triple 1914, Edinburgh.
Kaushosh, Ramchander, Scottish Triple 1913, Liverpool.
Keiller, Alexander John, Scottish Triple 1889, New Pitaligo.
Kerr, Felix Arthur, M.B. Glasg. 1912, North Shields.
Kidston, Noel Wallace, M.B. Edin. 1906, Liverpool.
Lamberton, James, M.B. Edin. 1912, Sheffield.
Langley, William Johnson, Scottish Triple 1892, Basingstoke.
Lee, James, M.D. Edin. 1902, Belfast.
Lee, Ying Chuen, M.B. Edin. 1917, Edinburgh.
Levy, Louis, M.B. Edin. 1914, Edinburgh.
Lincoln, Hugh Percival Witwell, Scottish Triple 1894, Manchester.
Lloyd-Jones, John Richard, Scottish Triple 1890, Nundle, N.S.W.
McCune, Lancelot Gordon, M.B. Edin. 1907, Belfast.
Macdonald, Angus, M.D. Edin. 1912, Plymouth.
Macdonald, Frank Bedingfeld, M.B. Edin. 1895, Northampton.
Macdonald, Philip Norman Mackay, M.D. Edin. 1904, Tiverton.
Macdonald, William, M.B. Edin. 1912, Edinburgh.
McGregor, John, M.B. Glasg. 1873, Ardgay.
Mackenzie, Hugh Munro Macleod, Scottish Triple 1894, Clevedon.
Mackie, George, D.S.O., M.B. Edin. 1899, Malvern.
Mackillop, Margaret Helen, M.B. Glasg. 1913, Glasgow.
McKinnon, Neil Charles, L.R.C.S. Edin. 1885, Sonya, Canada.
Macknight, William Crawfurd, M.B. Edin. 1892, Liverpool.
Macleod, Herbert William George, M.D. Edin. 1895, London.
McNeill (Mrs.), Katharine Beatson Arbuckle, M.B. Edin. 1906, Llanelly.
Macphail, Norman, M.B. Aberd. 1912, Ballindalloch.
Macrae, Farquhar, M.B. Aberd. 1887, London.
McRobbie, Alexander, M.B. Aberd. 1904, Banchory.
McWillie, John George, M.B. Aberd. 1896, Hull.
Malone, Reginald Hampstead, Scottish Triple 1918, London.
Marshall, Thomas, Scottish Triple 1891, Liverpool.
Martin, John, Scottish Triple 1914, Glasgow.
Martyn-Clark, Robert Eric Noel, Scottish Triple 1913, Edinburgh.

II.—*PRACTITIONERS REGISTERED ON THE SCOTTISH LIST—(Continued).*

Mason, George William, Scottish Triple 1912, Pontypool.
Mason, (Mrs.) Margaret Baillie, M.B. Glasg. 1907, Glasgow.
Matheson, Farquhar William, M.B. Edin. 1883, Cwmtwrch.
Maunsell, Daniel Beresford, M.B. Edin. 1910, Edinburgh.
Mavor, George Alexander, M.B. Aberd. 1899, Hounslow.
Maynard, Frederick Arthur, M.B. Edin. 1890, Trealaw.
Meek, Donald, M.B. Glasg. 1912, Glasgow.
Melrose, Thomas Robert Gray, Scottish Triple 1912, Edinburgh.
Metcalfe, Thomas Marshall, Scottish Triple 1916, Glasgow.
Miller, John Albert Henry, Scottish Triple 1907, Musselburgh.
Milne, John Brownlee, M.B. Edin. 1900, Montrose.
Mitchell, Andrew Ronald, M.D. Glasg. 1911, Glasgow.
Mitchell, Mary Cochrane, M.B. Glasg. 1909, Milton of Campsie.
Mondon, Vilcourt Pierre, M.B. Edin. 1910, Blaina.
Monro, David Carmichael, M.B. Edin. 1911, Edinburgh.
Moore, Francis Laird, M.B. Edin. 1910, Bideford.
Morrow, Hans Lowry, M.B. Edin. 1909, Enfield.
Moxon, Benjamin Howard, L.R.C.P. Edin. 1871, Hull.
Munro, Donald George Macleod, M.D. Edin. 1902, Maidenhead.
Munro, Janey Lamond, M.B. Glasg. 1915, Glasgow.
Murchie, Findlay, M.B. Glasg. 1909, Glasgow.
Murray, William Henry, M.B. Glasg. 1888, London.
Muterer, James George, M.B. Aberd. 1908, Aberdeen.
Nevett, Alfred Jebb, Scottish Triple 1894, Stockport.
Nicholson, Balfour Stewart, M.B. Glasg. 1893, Derby.
Nicolson, Samuel, Scottish Triple 1896, Glasgow.
Noble, Alexander, M.B. Aberd. 1906, Laurencekirk.
O'Neal, Charles Duncan, M.B. Edin. 1904, Fulwell.
Pallett, William Horner, M.B. Edin. 1914, Edinburgh.
Palmer, Percy Gerald, M.B. Edin. 1908, Edinburgh.
Patterson, William John, M.B. Edin. 1904, Worthing.
Paul, David Hutcheon, M.D. Edin. 1909, Manchester.
Paxton, Arthur Geoghegan, M.B. Glasg. 1905, Glasgow.
Pedroza, John William, Scottish Conjoint 1883, London.
Penfold, William James, M.B. Edin. 1896, London.
Platt, Garfield Arthur, Scottish Triple 1913, Edinburgh.
Power, Francis Grene, Scottish Triple 1912, Edinburgh.
Prentice, Adam, M.B. Edin. 1916, Edinburgh.
Proctor, George Bridgeford, Scottish Triple 1889, Walton-on-Thames.
Raffan, George, M.D. Edin. 1913, London.
Ramsay, Maxwell, M.B. Edin. 1911, Edinburgh.
Randell, Henry St. John, M.B. Edin. 1901, Aldershot.
Reed, Kathleen, Scottish Triple 1909, Dublin.
Rees, John Edward, Scottish Triple 1913, Gwaun Cae Gurwen.
Reid, James, M.B. Aberd. 1904, Dublin.
Reid, Spence Daer, M.B. Edin. 1911, Edinburgh.
Richards, Arthur James, Scottish Triple 1893, Liverpool.
Ritchie, Duncan, Scottish Triple 1897, Dundee.
Ritchie, Frederick, M.B. Aberd. 1913, Aberdeen.
Roberts, Charles Howard, Scottish Triple 1898, Devonport.
Robertson, George Henry Whiteside, M.D. Edin. 1913, Westcliff-on-Sea.
Robertson, Margaret Eason, M.B. Glasg. 1909, Glasgow.
Robertson, Stuart Dewar, M.B. Glasg. 1914, Glasgow.
Rose, John Alexander, M.B. Aberd. 1897, Salop.
Russell-Cargill, James Alexander M.B. Edin. 1908, London.
Ryle, Arthur John, M.B. Edin. 1900, Colwyn Bay.
Sardesai, Dinkar Sakharam, Scottish Triple 1909, Edinburgh.
Saunders, Benjamin Theodore, M.B. Aberd. 1913, Aberdeen.
Saville, William Henry, Scottish Triple 1887, Manchester.
Scales, Cuthbert, *M.C.*, M.B. Edin. 1913, Bradford.
Scott, Archibald Alastair Bruce, M.B. St. And. 1916, St. Andrews.
Scott, Hon. George Hepburne, M.B. Camb. 1898, London.
Scott, James McAlpine, M.D. Glasg. 1913, Congleton.
Sells, Hugh Lancelot, M.B. Edin. 1906, Edinburgh.
Shiels, Peter McLaren, M.B. Edin. 1913, Edinburgh.
Sinclair, Agnes Brymner, M.B. Glasg. 1900, Greenock.
Sinclair, James Edward, Scottish Conjoint 1883, Aldeburgh.
Sleigh, George Baird, M.B. Aberd. 1903, Broughty Ferry.
Smith, Clifford Halliday Kerr, *M.C.*, M.B. Edin. 1914, Humbie.
Smith, Edwin Charles Allan, Scottish Triple 1911, Perth.
Smith, George McCall, M.B. Edin. 1904, Perth.
Smith, John Kenneth, M.B. Glasg. 1914, Glasgow.
Smithies, Walter, M.B. Edin. 1912, Atherstone.
Standring-Smith, Robert Charles, M.B. Edin. 1905, Ipswich.
Stephens, Riccardo, M.B. Edin. 1893, Brora.
Steuart, Roger St. Clair, M.D. Edin. 1908, Edinburgh.
Stewart, Arthur Ford, M.B. Glasg. 1909, Glasgow.
Stewart, Henry, M.B. Glasg. 1914, Glasgow.
Stewart, James David Grahame, M.B. Edin. 1910, Edinburgh.
Stewart, William Ross, M.B. Edin. 1812, Edinburgh.
Strachan, Benjamin, M.B. Glasg. 1877, Cotherstone.
Strong, Clement Percival, M.B. Edin. 1900, Woking.
Sullivan, Patrick, Scottish Triple 1895, London.
Swaffield, Walter Henry, M.D. Edin. 1903, London.
Swan, James Douglas Carnon, M.B. Glasg. 1899, Glasgow.
Symons, Thomas George Gordon, Scottish Triple 1892, Southsea.
Tait, John, Scottish Triple 1893, Alyth.
Taylor, Robert Scott, M.B. Glasg 1907, Johnstone.
Telford, Robert Whitson, M.D. Edin. 1909, Edinburgh.
Thomas, Adolphe Harrison, M.B. Edin. 1881, Thornton Heath.
Thomas, William James, M.D. Edin. 1889, Sutton.
Thomson, Henry James, M.D. Aberd. 1910, Alford.
Thomson, Peter, M.B. Glasg. 1893, Glasgow.
Tibbles, Joseph Russell, M.B. Aberd. 1915, Melton Mowbray.
Turnbull, Arthur, M.B. Glasg. 1909, Glasgow.
Valentine, Gilbert Enos, M.B. Aberd. 1914, Montrose.
Vickerman, Philip Seston, O.B.E. M.B. Edin. 1905, London.
Walker, Wm., *M.C.*, M.B. Aberd. 1914, Newcastle-on-Tyne.
Walker, William James Alexander, M.B. Glasg. 1897, Glasgow.
Wallace, Robert, M.B. Edin. 1918, Edinburgh.
Wang, Chung Ching, M.D. Edin. 1916, Edinburgh.
Ware, Samuel Middleton, Scottish Triple 1908, Edinburgh.
Warwick, Hugh Fleming, *M.C.*, M.B. Glasg. 1904, Millom.
Watson, Frederick Robert, Scottish Triple 1909, Edinburgh.
Wedgwood, Percy Ashworth, Scottish Triple 1898, York.
White, John Duncan, M.B. Edin. 1917, Edinburgh.
White, Rosina Jane, Scottish Triple 1898, Leith.
Whittingham, Harold Edward, M.B. Glasg. 1910, Glasgow.
Wilkinson, Ada, M.B. Edin. 1902, Birmingham.
Wilkirson, Albert Robinson, Scottish Triple 1896, Worthing.
Wilkinson, Stephen Harold, M.B. Edin. 1910, Woodhall Spa.
Willcox, Frank Mayes, M.B. Edin. 1896, Edinburgh.
Wilson, Alexander Fraser, *M.C.*, M.B. Edin. 1889, London.
Wilson, Donald McDonald, *M.C.*, M.B. Edin. 1911, Greenock.
Wilson, Henry, M.B. Glasg. 1881, Dunblane.
Wilson, Robert Murray McCheyne, Scottish Triple 1911, Edinburgh.
Wright, Bertram Ernest, M.B. Edin. 1914, Edinburgh.
Wright, Reginald Harcourt, Scottish Triple 1893, Manchester.
Young, Andrew Morton, M.B. Glasg. 1913, Glasgow.
Young, George, M.B. Glasg. 1905, Liscard, Cheshire.
Young, Robert Henry, M.B. Glasg. 1883, Southend-on-Sea.

III.—PRACTITIONERS REGISTERED ON THE IRISH LIST.

Communications in regard to this list should be sent to the Registrar of the Irish Branch Council, 35, Dawson-street, Dublin.

Ainley, John Francis, M.B. Q.U. Belf. 1917, Belfast.
Beasley, Henry Cecil, Irish Conjoint 1893, Selby.
Beatty, James, M.B. Univ. Dubl. 1895, Northampton.
Beatty, Thomas Edward Bellingham, L.M. Univ. Dubl. 1915, Monkstown.
Bonis, Francis William, M.D. Univ. Dubl. 1898, Mullingar.
Bourns, Charles, Irish Conjoint 1870, Oxted.
Byrne, Daniel Joseph, L.A.H. Dubl. 1914, Tullow.
Casey, Philip Forth, Irish Conjoint 1872, Kew Gardens.
Clarke, James Kilian Patrick, M.B. R.U.I. 1908, Oakham.
Clarke, John Andrew, M.B. R.U.I. 1909, Dublin.
Clerke, Jonathan, Scotch Conjoint 1886, Dublin.
Collen, George Denbigh, M.B. Univ. Dubl. 1897, London, N.7.
Condell, William Haskins, Irish Conjoint 1912, Hetton-le-Hole.
Craig, Eric William, M.B. Univ. Dubl. 1915, Dublin.
Crosbie, Frank, M.B. Univ. Dubl. 1911, Dundrum.
Curry, Stephen Henry, Irish Conjoint 1902, London, S.W.
Curtin, Patrick James, Irish Conjoint 1885, Dublin.
Devlin, Henry William, Irish Conjoint 1890, Ballygaveen.
Dimond, William Elliot Randall, Irish Conjoint 1915, Maryborough.
Dobbyn, Michael Gilbert, Irish Conjoint 1891, Bristol.
Dooley, George Gerald, Irish Conjoint 1889, York.
Dowling, Ignatius Alphonsus, Irish Conjoint 1911, Manchester.
Doyle, Joseph Stanislaus, M.B. R.U.I. 1908, Enniscorthy.
Dunlop, Joseph Everard, M.D. R.U.I. 1890, London, W.1.
Dunlop, Peter, Scotch Conjoint 1882, London, E.7.
Ennis, John Cormac, L.M. Univ. Dubl. 1895, London, W.1.
Falkiner, John McIntire, Irish Conjoint 1890, London, E.4.
Fausset, Robert Rowley, Irish Conjoint 1909, London, W.
Foley, Cornelius, Irish Conjoint 1902, Horsley Woodhouse.
Foley, Edward Green, Irish Conjoint 1914, Sutton Cross.
Foran, John Joseph, Irish Conjoint 1911, Thornton Heath.
Gubbins, Robert Joseph, Irish Conjoint 1882, Killmallock.
Gwynn, Eileen Gertrude, M.B. Univ. Dubl. 1916, Dublin.
Halpin, Richard Stopford Gilbert, M.B. Univ. Dubl. 1913, Neyland.
Heron, James Mathew, M.D. Univ. Dubl. 1891, London, S.W.
Hill, John Francis, M.B., N.U.I., 1912, Cardiff.
Holmes, Reginald, M.D. Univ. Dubl. 1907, Gravesend.
Hopkins, Frederick, M.B. Belf. 1917, Belfast.
Johnston, Robert Henry, M.B. Dubl. 1878, London, N.W.
Keane, Percival Maurice, Irish Conj. 1907, Stoke Newington.
Kelly, Richard, M.B. Univ. Dubl. 1905, Huddersfield.
Kennedy, Arthur Patrick, Irish Conjoint, 1913, Clonmel.
Kilgariff, Joseph O'Loughlin, M.B. Univ. Dubl. 1889, Manchester.
Kirwan, Frederick Michael, Irish Conjoint 1911, Limerick.
Landy, Michael Joseph, M.B. R.U.I. 1903, Burnham.
Lapper, Cecil Lindsay, Irish Conjoint 1912, Dublin.
Latimer, Gordon Dill, M.B. Belf. 1913, Belfast.
Levins, James Mary Joseph Allen, L.A.H. Dubl. 1913, Dublin.
Lyden, Michael Augustine, Scotch Conjoint 1881, London.
Lynam, Bernard Malachy. Scotch Conjoint 1917, Bellaghy.
Lyons, John Francis, Irish Conjoint 1915, Clontarf.
McCausland, Joseph, M.B. R.U.I. 1908, Raphoe.
McCloy, John Moorcroft, M.B. R.U.I. 1909, Belfast.
McCowe, Samuel, Scotch Conjoint 1882, Dublin.
McCreery, Arthur Lonsdale, M.B. Belf. 1915, Belfast.
MacErlean, Donagh Aloysius, M.B. N.U.I. 1913, Dublin.
MacLulich, John Peers, M.B. Univ. Dubl. 1896, Edinburgh.
MacMahon, Augustine Patrick, M.B. R.U.I. 1907, Dublin.
McMurray, John, M.B. R.U.I. 1907, Manchester.
MacSweeney, John Alphonsus, Irish Conjoint 1917, Dublin.
MacSwiney, Thomas Stephen, M.B. R.U.I. 1891, Barnsley.
McVittie, Arthur Craigie, M.B. Univ. Dubl. 1898, Rugeley.
Maguire, William Joseph, M.B. R.U.I. 1894, Belfast.
Minchin, Edward John, Irish Conjoint 1884, London, E.4.
Montford, Archibald Henry, M.D. Univ. Dubl. 1875, Monkstown.
Moorhead, William StLeger, Irish Conj. 1907, London, W.
Moriarty, James Joseph Patrick, M.B. N.U.I. 1915, Dublin.
Mosley, Reginald Lawson, Irish Conjoint, 1880, Long Eaton.
Mulligan, Michael John, M.B. R.U.I. 1908, Athlone.
Murphy, Walter Joseph, Irish Conjoint 1901, Ballinakill.
Nicholson, John Francis, M.B. Univ. Dubl. 1903, Liscard.
O'Callaghan, Maurice Ahern, Irish Conjoint 1911, Dalkey.
O'Connell, Mathew Daniel, M.D. Belf. 1869, Tadcaster.
O'Donoghue, James Bennett, L.A.H. Dubl. 1911, Dublin.
O'Ferrall, Lewis Richard More, Irish Conjoint 1899, Bristol.
O'Gorman, Michael Charles, Irish Conjoint 1888, Aughrim.
Oldham, Ralph Stransham, M.B. Univ. Dubl. 1906, Sutton.
O'Kelly, John Joseph, Irish Conjoint 1912, Dublin.
O'Neil, James Arthur, L.A.H. Dubl. 1887, Colyton.

III.—*PRACTITIONERS REGISTERED ON THE IRISH LIST—(Continued).*

Ormsby, William, Irish Conjoint 1903, Roscommon.
O'Reilly, Patrick Joseph, Irish Conjoint 1914, Dublin.
O'Sullivan, Daniel, Scotch Conjoint 1884, Killarney.
Parker, William Patrick Hugh, Irish Conj. 1910, Glenageary.
Patton, Grahame, Irish Conjoint 1908, Long Eaton.
Pereira, John Michael, L.A.H. Dubl. 1913, London.
Pierce, Michael Joseph, Irish Conjoint 1908, Wrexham.
Phillips, Frank Gaedt, Irish Conjoint 1919, Dublin.
Porter, Joseph, M.B. Belf. 1913, Wigan.
Purcell, Edward, Irish Conjoint 1905, Dublin.
Quin, Henry Christian Ernest, Irish Conjoint 1901, Barnstaple.
Raj, Balapershad Shiv, Scotch Conjoint 1913, Dublin.
Rea, Robert James, M.B. Belf. 1914, Belfast.
Redelinghuys, Antoine Chiappini, M.B. Univ. Dubl. 1912, Dublin.
Rice, William, Irish Conjoint 1901, London, E.
Richards, Charles Maurice, Irish Conjoint 1892, Cookstown.
Richards, Henry Edward Sutherland, M.B. R.U.I. 1901, Liverpool.
Richardson, Samuel Robert, M.D. Univ. Dubl. 1910, Dublin.
Robinson, Edith, M.B. Belf. 1914, Whitehead.
Robertson, Walter Bold, M.D. R.U.I., 1897, Belfast.
Russell, Mortimer McGee, M.B. Univ. Dubl. 1916, Booterstown.
Rutherford, William George, Irish Conjoint 1885, Hanslope.
Ruttledge, Thomas Wilson, M.B. N.U.I. 1910, Dublin.
Savage, John Joseph, Irish Conjoint 1885, Rockferry.
Scott, Wm. Sydney Jebb, M.B. Univ. Dubl. 1881, Lymington.
Sheffield, William Henry, M.B. R.U.I. 1909, London, E.
Shortt, John William, Irish Conjoint 1899, Southport.
Sinnott, Thomas Joseph, Irish Conjoint 1913, Dublin.
Smith, George, Irish Conjoint 1875, Southsea.
Smullen, John Alexander, Irish Conjoint 1907, Dublin.
Smyth, Frederick Gerald, M.B. Belf. 1915, Belfast.
Smylie, John Dryden, M.D. Univ. Dubl. 1897 Dublin.
Somerville, Thomas Townsend, Irish Conjoint 1871, Sheffield.
Stubbs, John William Cotter, M.B. Univ. Dubl. 1913, Dublin.
Sweeney, William David, Scotch Conjoint 1891, Manchester.
Thompson, Gordon Moffat, M.B. Univ. Dubl. 1894, Liverpool.
Thompson, Thomas Rolland Stewart, M.B. Belf. 1916, Belfast.
Thunder, Wilfred, M.B. Univ. Dubl. 1904, Salop.
Tidmarsh, James Moriarty, Irish Conjoint 1897, Luton.
Tobias, William Oliver, M.B. Univ. Dubl. 1914, Dublin.
Tyrrell, William, M.B. Belf. 1913, Belfast.
Villiers, Henry John, Irish Conjoint 1915, Dublin.
Wallace, Edward Chapman, Irish Conjoint 1911, Limerick.
Wallace, Vivian, Irish Conjoint 1911, Multyfarnham.
Walters, Mortimer, Irish Conjoint 1906, Dublin.
Waters, Christopher, Irish Conjoint 1902, Dundrum.
Watson, James Samuel, Irish Conjoint 1895, Poole.
Weldon, Robert Percy, Irish Conjoint 1914, Epsom.
White, Henry Heathcote, M.D. Univ. Dubl. 1905, Norwich.
White, James Ross, M.B. Belf. 1912, Ballyshannon.
Young, Charles Henry, M.B. Nat. Univ. Irel. 1918, Carrigaline.

INTERNATIONAL SOCIETY OF SURGERY: THE PARIS CONGRESS.

(FROM A SPECIAL CORRESPONDENT.)

THE fifth congress of the International Society of Surgery was held at Paris from July 19th–23rd, under the vivacious presidency of Professor W. W. KEEN of Philadelphia, the G.O.M. of surgery in the United States, the fourth having taken place at New York in April, 1914. At a preliminary meeting held on Sunday afternoon and attended by delegates from many countries it was found necessary to raise the triennial subscription from 50 to 75 francs. It was determined that Germans, Austrians, and Turks should be excluded from membership, and the action taken by the English, French, and Belgian delegates in 1917 was thereby confirmed. Poles, Czecho-Slavs, and Neo-Greeks (i.e., Smyrna and Jugo-Slavs) were readmitted, whilst a new committee representing South America was created. Very complete arrangements had been made for the work of the Society at the Faculty of Medicine by the French surgeons, whilst the committee of ladies, with the kind help of Madame Lorthioir, made the ladies' visit equally successful. In the minds of all, however, there was a feeling of personal loss in the absence of Madame Depage—drowned in the *Lusitania*—who at all previous meetings of the society had been a most charming and indefatigable hostess.

Inaugural Meeting.

Each morning of the week was devoted to visiting the hospitals and clinics, whilst on every afternoon there was a scientific meeting, which began at 2 o'clock. The inaugural meeting was held on Monday afternoon, July 19th, with an address from M. HONNORAT, the Minister of Education, who introduced the Daylight Saving Bill in France. Addresses were also delivered by M. HARTMANN, F.R.C.S. Eng., President of the National Committee for France; by M. WILLEMS, President of the International Committee; and by Dr. MAYER, the secretary-general, who gave an account of the affairs of the society since its last meeting in the United States in 1914. Professor KEEN, the President, then delivered an inaugural speech "on some of the ideas which, as doctors, we ought to defend." He dealt with the education of a doctor, scientific research, professional conscience, venereal disease, the altruism of the medical profession, and the value of total abstinence. Lastly, he spoke of the courage shown by doctors not only on the battlefield but during civil epidemics. The address, delivered in English, was listened to with rapt attention by an audience which filled the large amphitheatre of the École de Médecine, and for the benefit of those whose English was not fluent Professor Keen had thoughtfully provided a French translation. The formal meeting then closed, and the serious business of the session commenced.

Scientific Proceedings and Discussion.

Surgical hæmatology.—M. DEPAGE and M. GOVAERTS communicated on the first day a report upon the results obtained by the examination of the blood in cases of anæmia due to hæmorrhage. They showed that intravenous injections of salt are useless after severe hæmorrhages; that post-hæmorrhagic anæmia does not reach its maximum until three days after the bleeding has taken place; that leucocytosis, and not a diminution of the red blood corpuscles, is the first hæmatological feature in hæmorrhage, and that when injected red blood corpuscles have been properly selected to avoid agglutination, they remain in the blood of the person who receives them for at least ten days.

Dr. E. A. GRAHAM, of New Orleans, read an interesting paper on *Asphyxia*, in which he stated that this condition may be produced by (1) interference with the intake of air; (2) interference with the power of the blood to carry oxygen or to remove carbon dioxide; (3) interference with the circulation of the blood; (4) disturbance of the power of the tissues to utilise oxygen. He pointed out that a change of pressure in one pleural cavity is associated with a similar change in that of the opposite side. Both lungs, therefore, are nearly equally compressed when their expansion is restricted by air or fluid. The commonly accepted condition of "collapse" of one lung with maintenance of respiration by the other does not occur.

Contributions were also made by M. PEUGNIEZ, of Cannes; by M. PUJOL-Y-BRULL, of Barcelona; and by M. DE QUERVAIN, of Berne, on Surgical Hæmatology; by Mr. GIBSON, of New York on Blood Analysis; and by M. REYNÈS, of Marseilles, on the Danger of Urea Retention in the Wounded and those who have undergone operations.

Surgery of the heart and blood-vessels.—Under the chairmanship of M. GIORDANO, of Venice, the second day was devoted to the surgery of the heart and great vessels. Communications on the subject were made by TUFFIER, of Paris; SENCERT, of Strasbourg; GOODMAN, of New York; ALESSANDRI, of Rome; JEANBRAU, of Montpellier; DELAGENIÈRE, of Le Mans; and SOUBBOTITCH, of Belgrade, whilst for want of time no less than 13 papers on the subject had to be taken as read. The wealth of papers showed the interest which the subject excites at present. There was consequently no opportunity for discussion, which, in view of the diversity of opinions expressed, might have proved animated. The general trend of opinion seemed to be that in skilled hands better results were obtained by the suture of wounded vessels than by their ligature, whilst the results obtained by Tuffier in the surgery of the heart were especially gratifying. He showed that in the recorded cases, which now number several hundreds, the mortality is about 50 per cent. after operation, and it is about 5 per cent. higher in stabs than in bullet wounds.

Fractures of the femur.—The interest excited in the treatment of fractures of the femur was shown by the fact that no less than 21 contributions were made to the subject, whilst Major MEURICE SINCLAIR gave an instructive demonstration of his method, partly by means of a well-arranged series of models and partly by

lantern slides. The net result of the day's work is that a new standard of results has been attained, and that much more perfect results are required, both as regards the utility and appearance of the limb, than was formerly accepted. Perhaps there was a little too much dependence placed upon mechanical methods by some of the speakers as against prolonged attention to minute details.

Radiotherapy, with Sir D'ARCY POWER presiding in the absence of the President, occupied the whole of a long afternoon, and 22 papers were offered for the consideration of a large audience. M. REGAUD was especially happy in his report upon the rational basis, technical indications, and general results of radiotherapy in malignant disease. He was followed by Dr. FINZI, who considered the action of radiations on tumours, the type of growth for which radiation should be used, the type of radiation to employ, and the after-effects of treatment.

M. ABBE gave a lantern-slide demonstration of the β and γ rays, and demonstrated the effects of magnetism upon the radium emanations, whilst Dr. COOLIDGE showed an apparatus for taking X ray pictures.

Tetanus.—The last day of the session was devoted to tetanus. Professor Colonel S. L. CUMMINS, A.M.S., introduced the subject by a report on tetanus in the British Army during the European War. He drew attention to the cases of "modified" and "local" tetanus, which were unknown before the use of prophylactic injections of antitetanic serum. He advocated the use of intrathecal injections, supplemented by large doses given into the muscles and subcutaneously.

The General Meeting.

At the general meeting of the society it was determined that the official languages in which contributions might be made were English, French, Italian, and Spanish. The next meeting will be held in England in 1923 under the presidency of Sir William Macewen, C.B., Mr. Charles Ryall becoming delegate; Sir Edward H. Taylor, of Dublin, Mr. J. E. Roberts, of London, and Mr. Gerald Stanley, of Paris, being elected members of the National Committee for Great Britain and Ireland. It was further decided that the subjects for "rapports" in 1923 should be: (1) sero-therapy and vaccino-therapy (except tetanus) in surgical affections; (2) fractures of the base of the skull; (3) malignant disease of the colon; (4) arthroplasty.

The general meeting closed with a vote of thanks to the committee of ladies under the leadership of Madame Lucas-Championnière, Madame Hartmann, and Madame Walther, who had perfected the arrangements for giving pleasure to the ladies who accompanied the members of the society.

Entertainments.

In spite of the fact that things are still far from normal in Paris owing to high prices, early hours, and shortage of small change, the visitors were lavishly entertained, and as the weather was perfect the gardens were used to the best advantage. Professor W. W. Keen, the President of the Congress, gave a reception in the magnificent house of Madame la Comtesse René de Béarn in the rue Saint-Dominique, where there was excellent music; the municipality of Paris received the members of the Congress at the Hotel de Ville; MM. Auvray, Pierre Duval, Faure, Hartmann, Michon, Proust, Robineau, Tuffier, and Walther, the leading surgeon in Paris, invited a large number of members and their wives to dine *al fresco* in the beautiful grounds of the Cercle Interallié in the faubourg Saint Honoré; Mr. Gerald Stanley, F.R.C.S. Eng., gave a dinner to several of the English visitors at his house in Passy; and there was much private entertaining. The public banquet, which is always a feature of congresses and international gatherings, was held at the Palais d'Orsay, whose suite of reception rooms overlooks the Seine. It was attended by over 150 ladies and gentlemen, under the chairmanship of Professor Keen. The chairman, in a series of witty speeches, acted the part of a showman and produced "a lion" to respond to the toast of each country as it was proposed.—The society ended its very successful meeting on Friday, July 23rd, and on Saturday morning 75 members and their wives left Paris on a three days' tour to the battlefields of the North of France.

IMPERIAL CANCER RESEARCH FUND:
ANNUAL MEETING.

THE eighteenth annual meeting of the Imperial Cancer Research Fund was held on July 22nd at the Examination Hall, Queen-square, London, the Duke of BEDFORD presiding. Among those present were Sir Norman Moore, Sir William Church, Sir George Makins, Sir Frederick Andrewes, Sir John Bland-Sutton, Sir Rickman Godlee, Sir John Tweedy, Dr. William Bulloch, Sir G. Sims Woodhead, Dr. B. R. G. Russell, Dr. W. Cramer, Dr. J. A. Murray (director), and Mr. F. G. Hallett (secretary).

The Fundamental Problems of Research.

Sir WILLIAM CHURCH, in moving the adoption of the report, gave a summary of the investigations during the past year, in which he stated that the director had continued the autologous grafting experiments, in which by transplanting an animal's own tumour to a part of its body away from the site of the primary growth, an artificial secondary growth is established. Dr. Murray stated his own view thus:—

"The efforts of many investigators in the period of 1900–1914, in addition to the great mass of facts elicited by the experimental study of cancer in animals, have gradually crystallised informed opinion to the conviction that the fundamental problems of cancer research involve the elucidation of processes which take place inside the parenchyma cells of malignant tumours. Much of the work falling within this period has been planned and interpreted on bacteriological lines, even by those workers who recognised the many differences between cancer and ordinary infectious diseases. The perfect reproduction of the pathological-anatomical features of spontaneous human and animal cancer by transplanted growths has too frequently been taken to warrant us in regarding the cancer cells as a virus implanted in the body to which they are so foreign that their peculiarities may be taken for granted, whereas every advance in our knowledge of them only enhances their similarity to normal cells. The essential differences must therefore be of the most subtle and delicate kind. It was felt that the gross analogy with ordinary infectious diseases underlying earlier work on the immunity to transplanted growths was not leading to positive results applicable to the disease as it occurs naturally. The mechanism of induced resistance to successful grafting is without effect against established transplanted tumours, and it has no influence on recurrence or metastasis of spontaneous cancer. This curious discrepancy, first brought out by the work of Haaland and Russell, is still unexplained. Provisionally it may be assumed that the explanation halts for want of knowledge of imperfectly understood features of cell-life the perversion of which is essential to the cancer process. Instead of elaborating still further the analysis of induced resistance it was considered desirable to break fresh ground and undertake the study of the metabolism of the cancer cell in as many ways as possible.

In the first instance it was decided to investigate the phenomena of cell respiration, normal and cancerous. The reasons for this choice were, firstly, the well-known dependence of cancer cells on close proximity to the blood-supply. The extensive necrosis in rapidly growing tumours is usually seen to affect all the cells with the exception of a narrow layer a few cells thick around the blood-vessels. Secondly, the work of J. C. Drummond had shown that the food necessities, basal and accessory, of tumours correspond so closely to the needs of the normal that it is impossible to influence the growth of cancer cells without jeopardising the life of the host. There was, therefore, not much prospect of discovering vulnerable features in the vital necessities of tumours in this direction."

Methods of Approach.

In pursuing one such investigation Dr. W. Cramer, Sir William Church continued, had examined the action of a number of inorganic substances on cancer cells. The first step in these investigations is to expose emulsions of a transplantable tumour to the reagent in the test-tube, and find out by inoculating the treated emulsion into susceptible animals the amount of damage produced. Salts of cerium were found to be the most active of those tested. Manganese and uranium salts were less potent, and the other elements experimented with were without effect in strengths which could be tolerated by the experimental animals. None of these substances, however, had any influence on growing tumours, a failure probably due to the irregularity of the circulation in the tumours which

delays the access of the reagents to the cells, coupled with their rapid elimination by the kidneys and bowels. This is one of the difficulties which is constantly met with in direct therapeutic experiments on cancer. The cancer cell is so like the normal cells of the body that agencies which destroy it are also dangerous to life.

Before we could plan, Sir William Church said, a rational method of treatment, it would be necessary to know more of the vital processes in cancer cells and the nature of the very delicate differences between them and the normal. A beginning has been made with the study of cell-respiration. Respiration is essentially a combustion process, oxygen being taken in and carbon dioxide given off. These are only the first and last terms, however, of a series of chemical equations, so that there is room for great variety in the intermediate stages, even if the final result should be the same. Dr. A. H. Drew had approached the problem by studying the rate of decolorisation of dilute methylene-blue solution by normal and cancer cells. With this method there is a wide difference between the two, decolorisation being much more rapid with normal cells. Dr. B. R. G. Russell and Dr. W. E. Gye have suspended the tissue emulsions in fully oxygenated defibrinated blood, and measured the rate at which oxygen is abstracted on incubation at body temperature. By this second method the differences are much less pronounced, and it is found that the more rapidly growing tumours, with significant exceptions, absorb more oxygen than those which grow slowly. The investigations are being continued, and give promise of interesting light on this fundamental feature of the life of cancer cells.

The adoption of the report was seconded by Sir JOHN BLAND-SUTTON.

Facilities Offered by the Fund.

The Duke of BEDFORD in moving a vote of thanks to the executive committee and others who have assisted in the work of the Fund during the past year referred to the wide range of investigation covering such important researches as those relating to (1) experimental induction of cancer; (2) respiration in normal tissues, which is a fresh line of research in connexion with cancer; and (3) experiments on the action of chemical substances on cancer cells in the test-tube and in the body, and the very technical investigation of the director on grafting. He noticed with satisfaction that the Fund is again in a position to assist investigators at home and abroad with tumour material for experimental purposes. Speaking of the finances of the Fund, he mentioned that increased expenditure was caused by the full resumption of laboratory research work as well as the enhanced cost of materials. The fixed income of the Fund was £5550, whereas the expenditure was £7000, the difference this year being met by a certain number of subscriptions and legacies. The Fund required at least £1500 a year more to maintain the researches. He referred to the valuable services of Sir Watson Cheyne, who had resigned the post of honorary treasurer, in which he was succeeded by Sir George Makins.

MEDICINE AND THE LAW.

Cremation and the Coroner.

IN the City Coroner's Court recently Dr. F. J. Waldo held an inquest upon the body of a man who had been found unconscious on the pavement and had died after removal to St. Bartholomew's Hospital. Medical evidence was given to the effect that disease of the arteries of the brain was present, and that death was due to cerebral hæmorrhage. There was also evidence that the deceased suffered from financial difficulties and was depressed, although he had appeared to be in his usual health when he left home. Dr. Waldo called attention to the fact that he had to exercise additional care in holding this inquest owing to the fact that the body was to be cremated, and referred to the form which awaited his signature, in consequence of this, as imposing a heavy responsibility upon coroners. Undoubtedly it does so, but at the same time the coroner in any case where suicide is suspected or possible can always safeguard himself by the evidence obtainable after post-mortem examination. Where there is reason to regard foul play as a possible cause of death it is, of course, incumbent upon him to obtain all evidence available to negative that possibility. Otherwise his duties are regulated by the Act of Parliament which imposes them, and as long as he complies with the requirements of the law no more can be expected of him.

Qualified Privilege or Malice.

At Leicester Assizes recently an action for slander and libel was tried before Mr. Justice Horridge and a special jury in which the plaintiff was Dr. J. T. Horron Davies and the defendant Eliza Lady Rolleston. The defendant's husband, Sir John Rolleston, who died early in April, 1919, of myocardial degeneration, was 72 years of age, and had for a long time been a patient of Dr. Davies. He returned from London to his house near Leicester shortly before his death very ill, and at the time of his death was being nursed by a trained nurse as well as by his wife. Shortly before Sir John Rolleston died Dr. J. D. Slight had been called in in consultation and had approved the treatment ordered, including the injection of sedatives, which had been rendered necessary by the patient's restless condition and impetuous temperament. It was not long after the administration of a subcutaneous injection of morphine and atropine that Sir John Rolleston died, and Lady Rolleston, who was distracted with grief and apparently under the impression that the injection had caused death, immediately accused Dr. Davies to his face before her brother-in-law and before servants of being responsible for the catastrophe. She also said to the nurse who administered the injection, "you and he planned it together." Presumably, as counsel observed in his opening speech, no public notice would have been taken by Dr. Davies of the utterances of a widow in the throes of grief, but six weeks later corresponding with Dr. Slight on the subject of her husband's death Lady Rolleston wrote: "Dr. Davies murdered him and all my friends agree with me. You can tell Dr. Davies or show him this letter. I don't care what you do in the matter." Dr. Slight appears to have communicated the contents of this letter to the plaintiff, who thereupon brought an action. In defence there was no plea of justification, the defendant not alleging that there had been wrongful or negligent treatment of the deceased, but "privilege" was claimed for the letter and utterances of the defendant. This plea the learned judge upheld, and left the case to the jury on the question whether there was malice on the defendant's part. The jury found a verdict for £100 damages, and judgment for that sum and costs was entered for the plaintiff.

With regard to the application of the protection of privilege to the occasions referred to above the ruling of the learned judge is not easy to understand. A statement made on an occasion of qualified privilege is *prima facie* protected, but proof of actual malice on the part of the defendant (the duty of proving such malice being on the plaintiff) will rebut the *prima facie* protection thus afforded. Qualified privilege exists on certain fairly well-defined occasions, among which are: (*a*) when statements are made with the object of protecting the writer or speaker to a person who has an interest or duty in connexion with the subject of the statement; (*b*) when the statement is made as to a matter in which there is an interest common to the writer or speaker and the person to whom the statement is made; (*c*) when statements are made in discharge of a legal, moral, or social duty. It is not altogether clear that (*a*) could apply or what interest there was common to Lady Rolleston and the gentleman who had advised in consultation with the plaintiff, or what duty Lady Rolleston had to communicate to him her opinion that the plaintiff was responsible for her husband's death. It may be, however, that the health of the patient and the result of the treatment were considered to be matters in which a common interest existed. As to the matter of duty, moreover, the question is what actually was the defendant's duty irrespective of any belief of the defendant that there was a duty to

make the statement. With regard to the question of malice, the use of excessively strong terms, more violent than the occasion demands, does not necessarily prove malice, but it has been laid down that "the language used in a libel, though under other circumstances justifiable, may be so much too violent for the occasion and circumstances to which it is applied as to form strong evidence of malice upon the issue of whether the communication is covered by privilege and an inference of actual malice may be drawn from its use." Lady Rolleston, no doubt, expressed an honest, and entirely mistaken, belief that her husband had been treated wrongly with fatal results in so vindictive a manner that it amounted to a charge of wilfully committed crime. Such language would constitute an abuse of the privileged occasion.

Poison in Sweetmeats.

At the recent York Assizes a trial was concluded the circumstances surrounding which have attracted some attention. The prisoner, Liddle, was indicted upon a charge of sending poisoned chocolates to a man named Thompson, a market gardener, and to seven other persons who had given evidence in an action arising out of a will in which he claimed an interest. This action had been decided against the prisoner, and the indictment was for sending the sweetmeats with intent to murder, and in an alternative count for sending them with intent to endanger life. Liddle, having been convicted on clear grounds upon the second count, was sentenced to ten years' penal servitude, with a concurrent sentence of five years upon other charges relating to the trial of the will case. The sending of poisoned sweetmeats to a person whom it is intended to injure is not a new idea, but savours in modern times rather of fiction than of fact. The case, however, should be a warning to persons receiving such gifts anonymously unless they have good reason to suspect a friendly donor. It is more easily conceivable that a malevolent person should seek to injure children, and through them to obtain revenge upon their parents, than that one man should send them to another for such a purpose. A market gardener would hardly, it might be thought, be able to avoid having his suspicions aroused by a gift of chocolates from someone unknown. The crime was, however, a very cruel one, and the punishment well deserved.

THE FEDERATION OF MEDICAL AND ALLIED SOCIETIES:

THE FIRST ANNUAL GENERAL MEETING.

THE first annual general meeting of this Federation was held on Tuesday last, at 11, Chandos-street, London, Sir MALCOLM MORRIS, the chairman of the Executive Council, presiding. There was a good representative attendance. The annual report of the Council, adopted unanimously by the preceding business meeting, was taken as read.

ANNUAL REPORT OF THE EXECUTIVE COUNCIL, 1919-1920.

This, the first annual general meeting of the Federation, finds your Executive Council in the happy position of being able to report that much has been accomplished. Much more remains, however, for us to do.

The lines on which it was hoped to develop the constitution of the Federation were, it will be remembered, four in number:—First, that it should consist mainly of representatives of the existing associations and societies in the medical profession; secondly, that it should include representatives of the professions and occupations whose work is allied to medicine; thirdly, that it should link up the medical profession outside Parliament with the members of the profession inside Parliament; and, lastly, that it should include representatives of the whole medical profession as soon as its position warranted that step. Further, it was clearly understood that the Federation was *not* a body with a personal mission to lead the profession, but was designed to provide the medical and allied professions with the means of collective expression in the councils of the nation, to foster unity in the profession and closer relationship with the community, and to safeguard those high principles upon which the practice of medicine has been founded throughout its history. Recognising that opinions differ, it has been the aim of your Council to steer a middle course, and its members, representing as they do many spheres of medical activity, have worked together harmoniously and cordially for the general good.

Corporate and Associate Membership.

Forty-two distinct organisations are now coöperating in the Federation, 24 of these as corporate members and 18 as provisionally represented bodies. In addition a number of others have at times sent representatives. The response from the professions and occupations whose work is ancillary to medicine has been remarkable—dental practitioners, pharmaceutical chemists, nurses and midwives are all represented by their chief organisations; sanitary inspectors and health visitors have offered their coöperation, and industrial medicine, hitherto largely neglected by us as a profession, has found its place within the wide horizon which encompasses the sphere of our interest.

Of the ten medical Members of Parliament (excluding one who, as a Cabinet Minister, is ineligible) nine have joined the Federation as honorary members, and the Medical Committee of the House of Commons has appointed its secretary, Captain W. E. Elliot, M.B., M.P., as its watching representative on the Executive Council. Sir Wm. Watson Cheyne has helped us in many ways and we owe much to the sympathetic coöperation that he and the other members of his Committee have given us. Lord Dawson of Penn, the first and only practising member of our profession in the House of Lords, has continued the support and sympathy which he has from the beginning given to the Federation.

The Council has given its support to two medical candidates for Parliament during the period under review, and was able to circularise all medical and dental practitioners, pharmacists, nurses, and midwives, and insert notices in the medical press, supply speakers, and provide cars for the poll.

The admission of Associate Members was commenced in March this year. A letter and pamphlet has been sent to most of the practitioners in the London district, and is now being sent to provincial practitioners. It has been found that the first issue brought in subscriptions sufficient to practically meet the cost involved, and as applications for membership are coming in in increasing numbers it is confidently expected that before long the limited income required will be available.

The main activities undertaken during the period have been the following:—

In October, 1919, a series of enquiries were sent to the societies coöperating regarding a possible medical service under the Ministry of Health, and designed to show how the interests of practitioners in the various branches of practice might be affected. The replies received have been valuable in the light of subsequent developments. The views of the societies were also obtained in regard to a Pure Milk Bill and other measures of impending legislation on which subsequent representations were made.

Conference on Medical Benefit Regulations.

On Dec. 12th, 1919, at a time when a very large section of the medical profession was much disturbed over the National Health Insurance Medical Benefit Regulations for 1920, a Conference was called at the request of certain of the constituent organisations to consider the higher questions of principle which were at stake and which were tending to be overlooked in the negotiations for higher remuneration. This Conference was productive of most useful discussion, and the following resolutions were adopted:—

1. That in the opinion of this Conference of medical and allied organisations the draft Regulations for 1920 proposed to be made by the Minister of Health with respect to the administration of the National Health Insurance Medical Benefit are not adapted to secure the most efficient service from the medical profession nor adequate results to the community.

2. That a Committee of Inquiry be asked for to take evidence and report.

3. That the resolutions of this Conference be conveyed to the Prime Minister and that he be requested to receive a deputation.

On Dec. 17th a deputation of six members of the Executive Council met the Medical Committee of the House of Commons in conference and secured the support of that Committee for the resolutions adopted at the Conference on Dec. 12th.

It was decided by the Executive Council that the first step in giving effect to the resolutions of the Conference should be to wait upon the Minister of Health, and that the deputation to the Prime Minister, which the Council had been assured would meet with a sympathetic attitude, should be deferred until the recommendations of the Medical Consultative Council of the Ministry had been made known.

On Jan. 23rd the Minister of Health received a strong deputation from the Federation, which was introduced by Sir Wm. Watson Cheyne, Bart., M.P., and was supported by the Right Honourable Sir Henry Craik, M.P., Sir Philip Magnus, Bart., M.P., and Lieutenant-Colonel F. E. Fremantle, M.P. The deputation placed before the Minister the reasons which appeared to necessitate an early, independent, and public inquiry into the working of the Medical Benefit under the Insurance Act. It was pointed out that the Medical Benefit under the Act has been in force for seven years, and that, although it constitutes the greatest experiment in public health legislation ever introduced, no facts are available upon which to judge of its success or failure. Dr. Addison accorded the deputation a most sympathetic hearing, and so far met it as to promise that such an inquiry as was asked for should be held if, on the issue of the Interim Report of his Medical Consultative Council, it could be shown that it would tend to instruct the public or the medical profession.

Support given to Constituent Organisations.

The support of the Executive Council has been sought by a number of representative organisations, notably by the British Dental Association, in urging upon the Secretary of State for War the minimal establishment necessary to secure an efficient permanent Army Dental Corps; by the British Science Guild in regard to State recognition and suitable awards for medical discovery; by the Medico-Psychological Association of Great Britain and Ireland in regard to the need of immediate legislation for the efficient treatment of mental disorders in their early stages; by the College of Nursing, Royal British Nurses' Association, and other representative nursing and midwifery organisations in regard to the need of nursing and allied services being directly represented on the Consultative Council of Medical and Allied Services of the Ministry of Health.

In each case the Executive Council has been able to render real service and its representations have met with a sympathetic reception at the hands of the Ministers concerned.

The Interim Report of Dr. Addison's Consultative Council, on the future provision of Medical and Allied Services, is now before the public and the professions concerned. The Executive Council has been able to give the Report preliminary consideration and has to acknowledge its indebtedness to the Minister of Health for his courtesy in supplying an advance copy, and to Lord Dawson for his readiness in answering many questions which have already arisen.

The necessary legal procedure in regard to the incorporation of the Federation is well forward and should be completed at an early date.

In conclusion, your Executive Council feels encouraged by the progress made in so short a time, which it thinks cannot be considered as other than satisfactory, and confidently looks forward to the future convinced that, continued on the lines originally laid down, the Federation cannot fail to foster greater unity in the medical and allied professions and bring them into closer and more sympathetic relationship with the great British public which they serve.

Signed for and on behalf of the Executive Council by MALCOLM MORRIS, Chairman; N. HOWARD MUMMERY, General Secretary.

A letter of regret was received by the general secretary from Dr. Addison, who wrote saying that pressure of Parliamentary work had put an embargo on all fresh demands on his time, and that it was not from any lack of goodwill that he did not attend the meeting.

CHAIRMAN'S ADDRESS.

Sir MALCOLM MORRIS then delivered an address reviewing the work of the Federation in the first year of its activity. He said:

Initial Success of the Enterprise.

We are not far from the beginning of the task to which we have put our hands; but the rapid accession to our ranks of numbers of the medical and kindred organisations which it is our aim to bring together for counsel and common action warrants the belief that our movement is destined to triumph. Our work has not been favoured by the heavy costs of all the facilities of communication, but this difficulty has been reduced to a minimum by the rigid economy that has been practised. So careful have our officers been that the expenditure for the first year has been kept within the estimate by more than £300, and their ingenuity has enabled them so to lay their plans that during the second year, without loss of efficiency, the expenditure will be still further reduced. That so much progress should have been achieved at so small an outlay is a most gratifying circumstance. As your chairman I should be guilty of gross remissness if I failed to pay a tribute to the work, as discreet as it has been energetic and enterprising, of the members of the Executive Council. They have spared neither time nor toil to further your interests, and I am sure that you will not be lacking in appreciation of their devoted and effective service.

That the evolution of this Federation conforms with the tendencies of the times is sufficiently obvious. The social instinct which prompts corporations to band themselves together for the attainment of common ends has been greatly stimulated as a result of the war. This, indeed, more than anything else, is the keynote of the national reconstruction which is now in progress. Alike in commerce and in industry, in employers and employed, we see a closing up of the ranks, while the nations themselves are striving to form themselves into a league as the one way of saving civilisation from shipwreck. Is it surprising, then, that the medical profession should strive after a Federation of the many organisations which represent its sectional interests, and should hold out the hand of fellowship to the bodies which represent the kindred professions?

The Need for Federation.

The need for such a Federation can be deduced only too easily from the experience of the last few years. Is it possible to maintain that when questions affecting the welfare of the great body of medical men have been before Parliament the profession has been able to pull its full weight? Was it so, for example, when the Health Insurance system was being framed? Certainly it was not. Who that cares supremely for the highest interests of the profession—and among those highest interests I rank its good repute—can look back upon the stormy events of those days without some sense of humiliation? The chaffering in public into which the profession was forced was only too well calculated to give the impression that medical men were thinking very much of their material interests and very little of the nation's welfare. Had there been in existence such a body as the Federation is fast growing to be, how different would have been the beginnings of Health Insurance. The Government would have known at the outset that it had to reckon with a Federation through which were able to speak not only doctors, but also pharmaceutical chemists (who were immediately concerned) and related bodies which had no material interests at stake to deflect their judgment. How could the deliberate conclusions of such a Federation have failed to carry weight with the Government, and with that public opinion which is the final court of appeal.

The need for federation is deducible not less plainly from the multiplicity of existing medical organisations. That there are some 200 separate medical bodies certainly shows that the profession is not lacking in the organising faculty. But is it not evident that the effect of all this organising energy would be vastly strengthened if these 200 bodies were leagued together? They are influential in very different degrees. But were they all federated, the most powerful would have their influence increased tenfold; the least powerful would have their influence increased a hundredfold. These 200 organisations may all, for aught I know, be in the highest state of efficiency, but never will they be able to speak with unimpeachable authority until they have entered into a combination which will enable them to elicit their greatest common measure of agreement. This is no case merely of counting heads. We cannot, indeed, as practical men and women, afford to disregard the weight of numbers, but I attach far more importance to the moral authority which is implicit in the deliberate conclusions reached by men and women of different yet kindred professions who have taken counsel together and can speak not only for those whose interests are directly involved in a given issue, but also for those who can claim the quality of impartiality. No conclusions so arrived at could possibly be waived by the imputation of interested motives.

No Party Politics.

It cannot too often be insisted upon that the Federation knows no party politics. To say that it knows no politics would be absurd, for the most important of its objects is to take political action at every possible opportunity; but it gave its support—its active and influential support, I will say—to Lieutenant-Colonel F. E. Fremantle, who was elected as a Coalition Unionist, and to another member of the profession, Dr. Dunstan, who stood as a Labour candidate, and, though not at the top of the poll, won the second place in the list. And every medical Member but one of the legislature except Dr. Addison, whose office debars him from formal association with a movement with which he has none the less avowed his sympathy—including Lord Dawson, who can speak for us in the House of Lords—belongs to the Federation. The medical Members of the House of Commons now number ten, and we know that they are only the advance guard. Before long, with the active backing of the Federation, their numbers will be multiplied, and the time is at hand when, on all questions affecting health interests, the Whips will have to reckon with a solid phalanx of medical men who will be able to speak with one voice on public health, however much they may differ on other questions.

If any Government starves the Public Health Service we must cry "hands off," and a powerful medical group in the House of Commons will be a bulwark. Behind it will stand the Federation. No longer will it be a "grave defect in medical organisation," to use Dr. Addison's words, that there should be "no body of men in the profession who could be appealed to for judgment on a great public issue." Such a body the Federation is destined to become. That the system known as State medicine will undergo much further development is inevitable. The profession has no alternative but to adapt itself to the nation's needs, whatever form the adaptation may take. That task will require more statesmanship than is to be found in any one of the existing medical organisations, be it never so powerful. It is an enterprise which will tax to the uttermost the statesmanship of the whole profession. If that be so, how can any medical society or association be justified in withholding whatever contributions it can make to the common stock?

Constituent Bodies Maintain their Independence.

Finally, I protest, with all the emphasis at my command, that the Federation is absolutely innocent of any design to supersede the independent action of its constituent bodies. Every such body preserves its full powers of self-determination, and is as free to take individual action on any question as it was before joining the Federation. Naturally, having entered the Federation, it will present for discussion the views which it entertains on any matter of common interest. But whether those views secure the concurrence of the Federation or not it will be absolutely free to take whatever separate action it pleases. The Federation's first and greatest function is that of coördination. Its conferences will all be round-table conferences, in which no priority or predominance can or will be claimed by any. So far from running any risk of absorption, each of the constituent bodies will have its independence established on a more unassailable basis than ever; it will be able to justify its existence in the eyes of those to whom it is responsible by pointing to the results achieved by the allied action in which it has participated, results which will be far superior to any that could have been accomplished by its isolated efforts. The Federation, I boldly assert, has no prejudices, no rivalries, no antagonisms. Its aim is to provide a platform upon which all who are in any way responsible for the health of the nation can meet for free and equal conference with a view to united action.

DISCUSSION.

Captain W. E. ELLIOT, M.P., referring to the great help which the Federation of Medical and Allied Societies could give to Members of Parliament, never more necessary than to-day, said that there were a dozen great questions before the country, nearly all of which must result in some kind of legislative action. If the medical profession spoke unitedly their opinion would be irresistible, otherwise the layman would continue to take his own line of action.

Dr. ARTHUR LATHAM said he thought the Federation had been wise to include other than members of the medical profession in its membership. If the public had not learned to respect the opinions of the medical profession in the past it was due to the fact that the trend of medical discussions had led the public to think that doctors had been actuated by personal motives. The Federation desired nothing more nor less than the interests of the community. He was confident that if health questions were put upon a proper basis, something like that suggested by the Consultative Council, the medical profession with its allied bodies would receive adequate and proper treatment.

Dr. E. H. M. STANCOMBE said that as an individual the medical man was popular, powerful, and respected, but as a member of a public health body his opinion did not carry the weight which it should do.

Dr. HOWARD MARSHALL said that in these days it was difficult to give adequate treatment for serious cases in private houses. Let all hospitals have paying patients for all classes. He explained a system started in Cirencester some years ago which satisfied the people and which was almost self-supporting. The Federation could help to bring all the hospitals in the country into line.

Dr. BLACKHALL-MORISON thought that when voluntary hospitals were transformed into institutions charging fees of different rates subscriptions would cease to come in, and the hospitals would be unable to carry on.

Lord DAWSON of PENN said that in the past the medical profession had been criticised, with some justice perhaps, because it had shown itself unable to lead and to construct policies. This professional individualism was giving way before the necessities of the State and the medical calling was slowly emerging to the more collective point of view. The country had given it the opportunity of showing what it could do, and as a result the medical profession as a body was now looked upon with greater respect. One of the recent efforts on the part of medicine to take its proper public place was the Federation of Medical and Allied Societies, which thus aimed at approaching the difficulties of the future, while the Consultative Council was establishing a nexus between the Government and the medical profession. Some of those who criticised the report of the Consultative Council did not understand its real meaning, while others regarded it as frankly utopian. There was, in fact, a big situation to meet, a situation daily becoming more and more impossible, and in some way or other it had to be met. The medical critics did not recognise the gravity of the present situation or its increasing insistence. What would they put in place of the report? The only alternative was the nationalisation of medicine, whereas the spirit underlying the report was the provision of equipment, leaving the relation between doctor and patient free as before. The scheme was not intended for immediate realisation as a whole; it indicated the direction in which evolution might take place. To build intelligently the builder must first know what he wanted. If the medical reformer to-day had but 2 millions of money at his disposal he would not be so foolish as to fill the country with health centres, but would proceed with caution, acquiring the necessary experience. It was indeed time for the medical profession to think out clearly some organisation whereby this country was to be made healthy. Among the circumstances that would force the pace was the increased demand on the part of the public for better health. He could not recall an instance in which the press had taken such interest in a medical report as in that of the Consultative Council. Medicine would have to identify itself with local health work in each community, and one of the most essential recommendations in the report was that the medical profession should be represented on any new health authority brought into being. The nationalisation of medicine was already taking place while they were talking. There were school, tuberculosis, maternity, and other services set up because the voluntary organisation of the medical profession had not proved sufficient to meet the needs of the community. Proposals for the conduct of the new Bradford infirmaries were being made without adequate consultation with the medical profession; he was told that it was proposed to set up there a whole-time service, and what Bradford did to-day another city might do to-morrow. It might, of course, be the best policy to turn Poor-law infirmaries into a whole-time medical service, but the medical profession ought to realise the significance of this very definite move towards municipal service.

A vote of thanks to the chairman brought the proceedings to a close.

Correspondence.

"Audi alteram partem."

INDUSTRIAL SETTLEMENT FOR THE CONSUMPTIVE.

To the Editor of THE LANCET.

SIR,—In an article with this heading, which appeared in THE LANCET on May 8th, by Dr. P. C. Varrier-Jones and Sir G. Sims Woodhead, the authors say: "The newer conception of the duties of after-care and colony committees is based on the inclusion of the idea of partial if not complete separation or segregation of the tuberculous patient." Their plan is to establish industrial settlements in which the work is, of course, to be performed by sanatorium graduates who are to be paid for their work. The authors first discuss how such industries are to be started, but the statements are vague and no practical conclusions are reached. There is no discussion whatever of the economic questions involved—the subject is merely mentioned—and the commercial principle of supply and demand is wholly ignored. Their chief concern seems to be lest the reader think there will be difficulty in inducing consumptives to accept the gifts so lavishly offered. "Set up your industry and the people will flock to it, but in this instance let the industry be set up for consumptives; let it be run for their particular and special benefit and they will come—and stay." "Suitable work is by no means an unimportant factor in the treatment of the consumptive; indeed, it must be looked upon as the central pivot of the whole system."

The authors next consider skill as it now exists among workmen, and their conclusions are summarised fairly well in the following quotation: "We had first to realise that the working man of to-day has to be trained, in the majority of cases, not as the master of a trade but as a hand in a factory." Next they consider the working ability of sanatorium graduates: "Their strength is certainly diminished and their health impaired, but with encouragement and opportunity, both of which should be freely given, they will be able to contribute very materially to their own support and that of their families. The opportunity to work is what is required, and their earnings, together with a small pension, will in most cases enable them to become self-supporting, certainly to a much greater extent than were they compelled to enter into competition with the healthy worker in the outside world. The sapping of the moral character by gifts and doles should be carefully avoided." What about the pension?

The above quotations are sufficient to show, it is believed, that even from the standpoint of the believer in sanatorium treatment, the plan proposed by these authors is not only visionary and extravagant, but if it were found possible to put into practice the final result would be to pauperise the workers.

From the standpoint of the work of the Thompson Street Rooms, where ambulatory consumptive wage-earners are treated without interruption to work, and where graduates and those still undergoing active treatment are kept under control and observation for years, the practice of sending ambulatory consumptive wage workers first to a sanatorium and after to an "industrial settlement" is equivalent, in effect, to saying to each patient: "We will first remove your right arm, which interferes with your recovery, and then, after the wound has healed, educate you to become self-supporting and independent by giving you a pension and work suitable for a one-armed man." From this view-point the plan just considered is little short of wicked. I am, Sir, yours faithfully,

New York, June 12th, 1920. JOHN F. RUSSELL, M.D.

To the Editor of THE LANCET.

SIR,—We are glad to have an early opportunity of correcting what appears to be a misapprehension on Dr. John Russell's part as to what is being done at Papworth. Apparently he does not recognise that what we wrote was the outcome of practical experience and that we are describing an industrial settlement not

built on the basis of a *château en Espagne;* the industries are already started and some practical conclusions are actually reached.

We were dealing, in our note, with the principles that underlie a large commercial undertaking in which the industries are run entirely for the benefit of consumptive working men, of whom 100 are already at work, and in connexion with which a considerable sum of money is passing through the hands of the business manager (a consumptive), the accounts being controlled and audited by an official auditor. This industrial colony is managed by and for consumptives, run on sound business lines and principles, in which consumptives in the colony village earn a full rate of wages for the number of hours they work, whilst others are being trained to follow in their footsteps. The turnover for these industries runs into five figures annually. In a booklet recently published we have anticipated the criticism contained in the first paragraph of Dr. Russell's letter:—

"Already the industries have a yearly turnover of many thousands of pounds. Serious work must be put in by all those employed; life is again given that zest which is all the more real and stimulating because it is triumphing over unfavourable circumstances. We compete in the ordinary markets with our goods. There is no undercutting, but, as manufacturers of articles for the wholesale trade, we fall into line with those who produce goods in the ordinary commercial way. To sum up, we might say that a colony takes and makes use of all that is good in industrial life, whilst rejecting or altering much that is detrimental to the welfare of the consumptive worker."[1]

Whether this is "visionary and extravagant," and whether the "commercial principle of supply and demand is wholly ignored," your readers will be able to judge.

As regards Dr. Russell's reference to pensions, we look upon them as "earned," and we maintain that in the case of consumptives they should be continued not as a gift or a dole, but as a right—as something awarded to a damaged man without which he is unable to continue on the level at which he was working and living before he entered the war. If Dr. Russell will come and look at the Papworth Colony (or make inquiries from some of his fellow-countrymen who have already visited the colony) he will find that it is possible to put into practice the plan concerning which he has such doubts; that it is neither visionary nor extravagant; and that it does not pauperise the worker. It is not a question of "if it were found possible"; the scheme is an accomplished fact, a striking success.

We are glad to know that such good results are being achieved at the Thompson Street Rooms, and we wish Dr. Russell all success in his efforts, for if proper provision cannot be made for consumptive wage-earners it is well that they should be educated, advised, and controlled; but whatever may be done with them in the workaday world they will always be tempted to overwork, and must remain more or less active centres of infection to those who work and live with them.

Finally, we cannot agree that taking a man to a sanatorium deprives him of his right arm, but we do realise that such a patient has indeed already been damaged, so far as capacity to engage in many industrial occupations is concerned, far more than by the loss of that right arm.

As to the last line of Dr. Russell's otherwise moderate letter, we should like to ask him whether it is more *wicked* to help a man to live a decent life and to keep his family with the aid of a pension than it is to leave that man in the surroundings in which he has contracted or laid the foundation of the disease, knowing the chances are that, although he may continue to work, he is all along fighting against long odds, and, whilst losing ground, must continue to be a centre of infection to his family and his fellows. We leave that to your readers to determine.—We are, Sir, yours faithfully,

P. C. VARRIER-JONES.
Cambridge, July 24th, 1920. G. SIMS WOODHEAD.

*** It seemed right to give those who were so strongly accused an immediate chance of reply.—ED. L.

[1] Industrial Colonies and Village Settlements for the Consumptive, p. 112. Cambridge University Press. London. 1920.

SKIN AFFECTIONS AND GENERAL SYMPTOMATOLOGY.

To the Editor of THE LANCET.

SIR,—Your short reference to a paper read by Mr. Mollinson at the meeting of the British Medical Association at Cambridge, in which he says that septic conditions of the tonsils may be a source of various skin affections, such as psoriasis, touches the fringe of a large subject. Recently a child in good position, well cared for in all respects, was brought to me on account of psoriasis, which was rebellious to treatment. I found septic tonsils, and after these were removed the patient was cured.

But the pathology of psoriasis is practically unknown. Consequently the practitioner is debarred from frontal attack, and must ascertain in what way his patient, as a whole, departs from the normal. I believe it was Hebra who said that "psoriasis is a disease of the healthy." My own experience has taught me that if we can only investigate sufficiently, each victim of psoriasis will reveal some degree of pathologic deviation, which must be rectified before we can cure the disease. A large number of sufferers from psoriasis are chronically constipated. It is remarkable how many of these people are cured by the internal administration of petroleum, *provided the petroleum cures the constipation.* A Lane-Curtis belt is frequently a great help in bringing about this happy result.

Psoriasis is, of course, not the only affection of the skin that is profoundly influenced by a toxic state of the blood. In investigating any eruption, except those caused by known definite agents such as scabies and tinea, the first thing to do is to seek for any cause which may give rise to general systemic infection. The rôle played by carious teeth and pyorrhœa in increasing the vulnerability of the skin can scarcely be over-rated, and in dermatological practice it should be part of the routine to examine carefully the buccal cavity. In innumerable instances obstinate skin affections have been cured by the intelligent treatment of the patient when classic methods of fighting the disease have failed.

I am, Sir, yours faithfully,
Birmingham, July 26th, 1920. ARTHUR LOXTON.

THE INVESTIGATION OF RENAL EFFICIENCY.

To the Editor of THE LANCET.

SIR,—While we agree with Dr. Harrington Sainsbury that the body does fortunately possess to some extent the power of compensating for disease of a particular organ or system, we are of opinion that careful study of the diseased organ offers the most fruitful prospect towards successful diagnosis, prognosis, and treatment. The utilisation of other resources of the body has long been recognised, and any advance in the knowledge of such mechanisms cannot fail to be of value. Unfortunately, these extra resources are often of minor importance; indeed, it is doubtful whether certain functions of the renal system are at all exercised by other organs.

We would point out, however, that such a test as the estimation of blood urea affords an index, not only of the efficiency of the kidney, but also of the general power of the body to eliminate urea.

With regard to Dr. E. W. Dewey's questions: (1) We have not tried urea in the treatment of cardiac œdema, but its diuretic properties might very possibly be of use in this connexion in certain cases. (2) A salt-free diet, or at any rate a very sparing use of salt, should be advantageous on theoretical grounds, and in practice we have several times found that the combination of urea and a practically salt-free diet gave good results, in difficult cases. (3) We have not seen any instance of uræmia being precipitated in interstitial nephritis by the administration of urea, nor do we think this contingency at all likely to arise. In the first place, it is very doubtful whether urea *per se* takes any part in the development of uræmia; and secondly, in an advanced case, in which the possibility of uræmia might have to be taken into consideration, the retention of urea in the

blood is generally so great that its concentration would, relatively speaking, be only very slightly increased by a dose of 15 g. of urea administered by the mouth. From a large experience we are convinced that no danger exists in this direction.—We are, Sir, yours faithfully,

H. MACLEAN,
A. E. RUSSELL.

St. Thomas's Hospital, S.E., July 26th, 1920.

THE TUBED PEDICLE IN PLASTIC SURGERY.

To the Editor of THE LANCET.

SIR,—In various medical papers Major H. D. Gillies lays great importance to the discovery of the tubed pedicle. He claims in the *Journal of Surgery, Gynæcology, and Obstetrics*, February, 1920, to use his own words, "that he propounded the method in September, 1917."

If you, Sir, will refer to your issue of Dec. 15th, 1917, p. 889, you will see that in conjunction with the then Lieutenant G. S. Hett, on Nov. 12th, I performed the second stage of the operation, which consisted in sewing a chest pedicle together. This case is illustrated on p. 891. I distinctly recollect telling Major Gillies why I took this step, and have no recollection of his having done a similar operation previously.

I would draw Major Gillies' attention to the history of the double pedicle flaps to which he attaches so much importance. The first double pedicle flap at Sidcup was performed upon a man for deficient lower eyelid by myself. I transferred a stirrup flap from above to below the eye. Subsequently we found that Tripier had previously done a similar operation. I next made a large double pedicle flap from the throat and slipped it over the chin to make a lower lip in a man named McCrea. Major Gillies next did a converse operation, bringing down the scalp to the chin, and subsequently brought his chest flap up in a case of burn to the face. There are many who recollect this sequence of events, but the records are there for reference. In my work in the press, "Records of Plastic Surgery in Civil Life," I do not intend to enter into any disputes, but hope to depict the influence of war surgery on civil practice, leaving out all war cases and much of the pettiness connected with them. I am quite certain my late colleague will admit my contention in this letter once his attention is drawn to the same.

I am, Sir, yours faithfully,

J. L. AYMARD,
Late Plastic Surgeon, Cambridge Hospital, Aldershot, and Queen's Hospital, Sidcup.

Globe House, St. George's-street, Capetown, July 1st, 1920.

MEDICAL EXPERIENCES IN MACEDONIA AND THE CAUCASUS.

To the Editor of THE LANCET.

SIR,—I am glad to find myself in full agreement with Professor L. S. Dudgeon's conclusions, as stated in his letter appearing in your issue of July 17th, that intramuscular injections of quinine may be regarded without apprehension provided it be recognised that serious troubles may arise unless the dangers, and how to avoid them, are fully understood. It would, indeed, have been surprising had we differed, seeing that the actual cases from which Professor Dudgeon's conclusions were drawn were for the most part the same that came under my own observation. Nearly all the ill-effects of intramuscular injections observed by Professor Dudgeon and enumerated by him in his article in the *Journal of Hygiene* were assignable to some error in technique and come under the category of preventable complications.

Considering the many thousands of injections given in Macedonia, the very small number of cases in which such ill-effects followed is a testimony, as Professor Dudgeon observes, to the recuperative power of the tissues; it also goes far to prove the point for which I was contending, that those who employed this method of treatment were alive to the risks, and with rare exceptions were successful in the precautions they took to prevent complications.

I am, Sir, yours faithfully,

Weymouth-street, W., July 19th, 1920. A. G. PHEAR.

The Services.

ROYAL ARMY MEDICAL CORPS.

Majors to be acting Lieutenant-Colonels: H. T. Wilson, R. N. Hunt.

To be Captains: Temp. Major J. H. Spencer; Capts. W. E. K. Coles (late R.A.M.C.), E. O. A. Singer (from Spec. Res.).

L. Handy and J. W. Malcolm, late R.A.M.C., Spec. Res., to be temporary Captains.

Temp. Lieut. J. F. P. Gallagher to be Lieutenant.

B. McB. Richardson to be temporary Honorary Lieutenant.

Officers relinquishing their commissions:—Temp. Major A. L. B. Green (retains the rank of Major); Temp. Capt. S. Stockman (granted the rank of Major); Temporary Captains retaining the rank of Captain: I. M. Grant, J. M. Mitchell, H. R. S. Walford, A. McK. Bell, C. Stanley-Clarke, W. B. U. Patterson, A. P. Adams, P. E. B. Barrow, S. H. Pitcairn, A. M. Masters, J. D. Judson, S. D. Craig; Temp. Hon. Capt. B. M. Richardson (retains the honorary rank of Captain).

Capt. W. N. Greer, R.A.M.C. (S.R.), and Temp. Capt. D. V. O'Malley, R.A.M.C., have been appointed Officers of the Military Division of the Most Excellent Order of the British Empire for valuable services rendered in connexion with military operations in Burma.

TERRITORIAL FORCE.

Lieut.-Col. C. I. Ellis to be Deputy Assistant Director of Medical Services, Wessex Division, with the pay and allowances of a Major.

Capt. L. T. Challenor to be Deputy Assistant Director of Medical Services, South Midland Division.

Lieut.-Col. A. G. Hamilton to command 4th Cheshire Cavalry Field Ambulance.

Majors to be Lieutenant-Colonels and to command as stated: A. E. Jerman (4th London Field Ambulance), A. A. W. Merrick (3rd West Lancs. Field Ambulance), T. Kay (2nd Scottish Casualty Clearing Station), E. C. Stack (6th Stafford Cavalry Field Ambulance), F. W. Bailey (1st West Lancs. Field Ambulance), J. G. Martin (2nd West Lancs. Field Ambulance), W. Archibald (2nd Eastern Casualty Clearing Station), C. R. White (3rd Western Casualty Clearing Station).

Surg.-Major C. O. Parsons, from R.G.A., to be Lieutenant-Colonel and to command 2nd Welsh Field Ambulance.

Captains to be Lieutenant-Colonels and to command as stated: H. F. W. Boeddicker (1st Southern Casualty Clearing Station), F. Darlow (2nd Northern Casualty Clearing Station), G. L. Thornton (1st Wessex Field Ambulance), F. A. Roper (2nd Southern Casualty Clearing Station), H. F. Everett (1st East Anglian Field Ambulance), T. B. Wolstenholme (2nd Western Casualty Clearing Station).

Major L. C. V. Hardwicke to be acting Lieutenant-Colonel whilst specially employed.

Majors T. D. Brown and D. R. Dobie resign their commissions and retain the rank of Major.

Capt. P. W. G. Sargent resigns his commission and is granted the rank of Colonel.

Capts. F. J. M. Kennedy and D. M. Marr resign their commissions and retain the rank of Captain.

Capts. J. Barkley and J. R. Menzies to be Majors.

Capt. A. G. Wilson, from 3rd Northern General Hospital, to be Captain.

TERRITORIAL FORCE RESERVE.

Major H. Richardson, from R.A.M.C. (General List), to be Colonel; Capt. C. W. Eames, from General List, to be Lieutenant-Colonel; Capt. C. N. Smith, from General List, to be Major.

Capt. K. S. Storrs resigns his commission and retains the rank of Captain.

ROYAL AIR FORCE.

The undermentioned have been granted permanent commissions, subject to physical fitness and to acceptance of conditions of service when promulgated:—

Wing Commanders: H. V. Wells, C. E. C. Stanford, A. W. Iredell, H. Cooper, A. V. J. Richardson, J. McIntyre, M. W. Flack.

Squadron Leaders: H. M. S. Turner, E. C. Clements, W. W. Shorten, W. A. S. Duck, B. A. Playne, R. H. Knowles, H. A. Treadgold, J. MacGregor, H. A. Hewat, H. B. Porteous, T. S. Rippon, F. N. B. Smartt, H. E. Whittingham, D. Ranken.

Flight Lieutenants: A. S. Glynn, A. E. Panter, H. W. Scott, P. M. Keane, T. J. Kelly, R. S. Overton, D'Arcy Power, J. Rothwell, K. Biggs, A. J. O. Wigmore, J. H. Porter, A. F. Rook, T. C. St. C. Morton, G. S. Marshall, E. W. Craig, R. A. G. Elliott, T. J. Thomas, P. H. Young, R. S. Topham, T. R. S. Thompson, P. C. Livingston, P. J. Flood, J. T. T. Forbes, J. Kyle, C. T. O'Neill.

The following promotions are made:—

Squadron Leaders to be Wing Commanders: H. M. S. Turner, E. C. Clements.

Flight Lieutenants to be Squadron Leaders: A. S. Glynn, A. E. Panter, H. W. Scott, P. M. Keane.

The undermentioned are granted short service commissions, subject to physical fitness and to acceptance of conditions of service when promulgated:—

Squadron Leaders (whilst so employed): R. L. Roe, H. Harvey, F. C. Jobson.

Flight Lieutenants: E. P. Punch, E. N. H. Gray, R. E. Bell, C. H. B. Thompson, E. A. Lumley, D. G. Boddie, R. J. Aherne, W. F. Wilson, F. J. P. Saunders, W. A. Malone, F. J. Murphy, H. McW. Daniel, A. E. Barr-Sim, P. A. Hall, H. B. Troup, R. Mugliston, J. C. Smyth, J. P. Hosford, J. J. O'Mullane, J. P. Wells, T. Montgomery, A. Briscoe, E. G. O'Gorman, T. J. X. Canton, W. F. Shiel, A. Watson, C. H. Young.

Flight Lieut. F. J. P. Saunders is seconded for duty with the Director of Research.

The following officers are granted short service commissions in the ranks stated:—
Flight Lieutenant: E. P. Hardman.
Flying Officers: J. B. Allen, V. P. Feather, J. Talbot.
Observer Officer: W. W. Bradford.
Flying Officer S. G. Frogley resigns his short service commission and is granted the rank of Flight Lieutenant.

TERRITORIAL DECORATION.

The Territorial Decoration has been conferred upon the undermentioned officers: Lieut.-Cols. J. W. Leitch (1st Lowland Field Ambulance), M. Dunning (2nd Lowland Field Ambulance); Majors G. W. Fitzgerald (1st East Lancs. Field Ambulance), A. W. French (3rd London (City of London) Field Ambulance), W. G. Sutcliffe (attached 3rd Home Counties Brigade, R.F.A.), J. Leach (Highland Mounted Brigade Field Ambulance), H. G. F. Dawson (attached Welsh Divisional Engineers), B. Riddell (3rd Scottish General Hospital); Capt. L. B. Cane (attached Inns of Court O.T.C.).

FOREIGN DECORATIONS.

French.

Médaille des Épidémies "d'Or."—Maj. G. H. J. Brown, D.S.O., R.A.M.C.; Capt. H. Lightstone, D.S.O., M.C., R.A.M.C. (T.F.).
Médaille des Épidémies "en Argent."—Maj. G. P. A. Bracken, R.A.M.C.; temp. Capt. J. F. Broughton, M.C., R.A.M.C.; Capt. D. Mackie, M.C., R.A.M.C. (S.R.); Capt. C. J. L. Patch, M.C., I.M.S.; temp. Capt. A. G. Whitehorne-Cole, R.A.M.C.; temp. Capt. A. W. Young, M.C., R.A.M.C.
Médaille des Épidémies "en Bronze."—Temp. Lt. W. S. Baird, R.A.M.C.; temp. Capt. H. R. Dew, R.A.M.C.; temp. Capt. J. E. Paterson, R.A.M.C.

Serbian.

Order of St. Sava: 4th Class.—Maj. G. Ashton, T.D., R.A.M.C. (T.F.); temp. Capt. P. Black, R.A.M.C.

URBAN VITAL STATISTICS.

(Week ended July 24th, 1920.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at nearly 18 million persons, the annual rate of mortality, which had been 9·9 in each of the three preceding weeks, fell to 9·8 per 1000. In London, with a population of nearly 4½ million persons, the annual death-rate was 9·1, or 1·0 per 1000 below that recorded in the previous week, while among the remaining towns the rates ranged from 1·8 in Cambridge, 4·4 in Preston, and 4·9 in Wallasey and in Dewsbury, to 17·0 in Enfield, 17·1 in Tynemouth, and 17·7 in Great Yarmouth. The principal epidemic diseases caused 192 deaths, which corresponded to an annual rate of 0·6 per 1000, and comprised 91 from infantile diarrhœa, 42 from diphtheria, 29 from measles, 20 from whooping-cough, 7 from scarlet fever, and 3 from enteric fever. Measles caused a death-rate of 1·2 in Rhondda and 1·4 in Warrington, but the mortality from the remaining diseases showed no marked excess in any of the towns. There were 1911 cases of scarlet fever and 1556 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 1855 and 1582 respectively at the end of the previous week. The causes of 27 of the 3342 deaths in the 96 towns were uncertified, of which 5 were registered in Birmingham.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2¾ million persons, the annual rate of mortality, which had been 11·1, 12·1, and 11·1 in the three preceding weeks, rose to 11·6 per 1000. The 274 deaths in Glasgow corresponded to an annual rate of 12·8 per 1000, and included 11 from infantile diarrhœa, 9 from small-pox, 2 each from measles and diphtheria, and 1 each from enteric fever and whooping-cough. The 87 deaths in Edinburgh were equal to a rate of 13·3 per 1000, and included 2 from infantile diarrhœa and 1 from diphtheria.

Irish Towns.—The 102 deaths in Dublin corresponded to an annual rate of 12·8, or 2·9 per 1000 below that recorded in the previous week, and included 3 from whooping-cough, and 1 each from measles and infantile diarrhœa. The 92 deaths in Belfast were equal to a rate of 11·6 per 1000, and included 3 from infantile diarrhœa, 2 from diphtheria, and 1 each from scarlet fever and whooping-cough.

TYRONE COUNTY INFIRMARY.—At a meeting of the Co. Tyrone Hospital Committee, held in Omagh on July 10th, it was stated the deficit for the present year was estimated as being about £2500, but as the accounts had not yet been audited the county council could not be asked to meet this deficit. The effort to raise £700 of debt (which cannot be recouped by the county council) was reported as proceeding satisfactorily; and when this sum is found the Committee will get £900 from the Red Cross Society. The amount of the £700 already received is £400. It was agreed to increase the salary of the nursing sisters to £70 per annum, the officers to get an increase of 15 per cent. on their present salaries, and the servants and the nurses to receive an addition of 25 per cent.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Care of the Blind.

THE Bill introduced by Dr. ADDISON, Minister of Health, to promote the welfare of blind persons in the United Kingdom, was considered by a Standing Committee of the House of Commons on Thursday, July 22nd, Sir WATSON RUTHERFORD in the chair.

On Clause 1, in answer to criticisms to the effect that the Bill did not go far enough, Dr. ADDISON pointed out that over 50 per cent. of the blind would be automatically included within the operation of this clause, and of the remainder one-third were children under 16 years of age. Under Clause 2, if amended as he would propose later, it would be the duty of county and county borough councils, instead of being optional as originally contemplated, to make provisions for the maintenance and training of all blind persons. The Government proposed that 50 per cent. of all capital expenditure of those authorities in regard to the provision of workshops and so forth should be provided by Exchequer grants. In addition they would continue grants in respect of training, and would make maintenance grants to institutions in respect of persons trained. He thought that it was better to proceed in this way than by granting pensions in a wholesale manner. On a division Clause 1 was agreed to by 16 votes to 9, and Dr. ADDISON then moved the new subsection to Clause 2, to which he had previously referred. The subsection was agreed to. A further amendment proposed by Dr. ADDISON requiring that local authorities should make suitable provision for the technical education of blind persons was also adopted. The Committee stage of the Bill was concluded, and the measure as amended was ordered to be reported to the House.

Dangerous Drugs Bill.

The Dangerous Drugs Bill, a measure prepared to give effect to the International Opium Convention signed at the Hague in 1912, was considered by a Standing Committee of the House of Commons on Tuesday, July 27th. Colonel W. G. NICHOLSON was in the chair.

Sir J. BAIRD, Under Secretary for Home Affairs, moved an amendment to Clause 7 which deals with the control of the manufacture or sale of cocaine, morphine, and other drugs, providing that regulations under the section should provide for authorising any person who lawfully kept a shop for retailing poisons under the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, (*a*) to manufacture at the shop in the ordinary course of his retail business any preparation, admixture, or extract of any drug to which Part 2 of the Act applies, or (*b*) to carry on at the shop the business of retailing, dispensing, or compounding any such drug, subject to the power of the Secretary of State to withdraw the authorisation in the case of a person convicted of an offence against the Act or of an offence under the enactments relating to the customs as applied by the Act, and who could not in the opinion of the Secretary of State properly be allowed to carry on the business of manufacturing or selling or distributing any such drug. The Secretary of State, before withdrawing the authorisation, is bound to consult the Council of the Pharmaceutical Society of Great Britain. Nothing in any regulations made under the section is to be taken to authorise the sale or keeping of an open shop for the retailing, dispensing, or compounding of poisons by any person who is not qualified under the provisions of the Pharmacy Acts or to be in derogation of the provisions of those Acts for prohibiting, restricting, or regulating the sale of poisons. The amendment was agreed to.

Sir J. BAIRD moved an amendment to Clause 13, which deals with offences and penalties, to the effect that a person guilty of an offence under the Act should be liable on summary conviction to both fine and imprisonment and in the case of a second or subsequent conviction to a fine not exceeding £500, or to imprisonment with or without hard labour for a term not exceeding two years, or to both such fine and imprisonment, and the court dealing with the case may, in addition to any other punishment, order the goods in respect of which the offence was committed to be forfeited. The amendment was agreed to.

Sir J. BAIRD moved another amendment to Clause 13, providing that any proceedings for an offence against the Act before a court of summary jurisdiction might, notwithstanding any enactment prescribing the time within which such proceedings might be brought, be brought either within the time so prescribed or within three months from the date on which evidence sufficient in the opinion of a Secretary of State to justify a prosecution for the offence came to his knowledge, whichever was the longer, and a certificate purporting to be signed by the Secretary of State as to the date on which such evidence came to his knowledge should be

conclusive evidence thereof. In the application of the subsection to Scotland the Lord Advocate, and in its application to Ireland the Attorney-General for Ireland, should be substituted for a Secretary for State. The amendment was agreed to.

Sir J. BAIRD moved a new clause providing that any constable might arrest without warrant any person who had committed or attempted to commit, or was reasonably suspected by the constable of having committed or attempted to commit, an offence against the Act, if he had reasonable ground for believing that that person would abscond unless arrested, or if the name and address of that person were unknown to and could not be ascertained by him. The clause was agreed to.

On the motion of the Attorney General for Ireland (Mr. HENRY), a new clause was agreed to to the effect that in the application of the Act to Ireland (*a*) a reference to The Poisons (Ireland) Act, 1870, The Pharmacy (Ireland) Act, 1875, and The Pharmacy (Ireland) Act, 1875 (Amendment) Act, 1890, should be substituted for any reference to The Pharmacy Act, 1868; and (*b*) a reference to the Pharmaceutical Society of Ireland should be substituted for the reference to the Pharmaceutical Society of Great Britain. The clause was agreed to.

The Committee stage of the Bill was concluded and the Bill was ordered to be reported to the House.

HOUSE OF COMMONS.

WEDNESDAY, JULY 21ST.

Report of Birth-rate Commission.

Lieutenant-Colonel FREMANTLE asked the Minister of Health if he had considered the Second Report of the Birth-rate Commission; and what steps he proposed to take to secure constant consideration in future of the practical problems involved.—Dr. ADDISON replied: I have seen the Report in question. All statistical aspects of the matter are kept under continuous review by the Registrar-General's Department, now working in close relation to the Ministry. Any steps that are desirable and practicable will be taken, but I am not clear as to any special action by the Ministry that is called for at the present time.

Venereal Diseases Officer at Bury.

Captain LOSEBY asked the Minister of Health whether the position of venereal diseases officer at Bury, Lancashire, a part-time appointment of nearly £350 a year, had been given to an applicant who did not join up for service in the war; whether 15 applications were received; whether the three selected for interview possessed at least equal academic status and experience to the one chosen for the position; whether these three applicants had each been over four years in the army and had served overseas; whether, seeing that, other qualifications being equal, an important public post, paid for out of Government funds, should be given to a man who had served in the Forces, and the appointment must be ratified by the Ministry of Health, what action he proposed to take in the matter.—Dr. ADDISON replied: I have not yet received any application for approval of this appointment, but I am communicating with the Bury town council in the matter.

Association of British Girls with Orientals.

Brigadier-General SURTEES asked the Secretary for the Home Department whether his attention had been called to the state of things existing in the East-end of London, as well as in a number of seaport towns, in consequence of the association of young British girls with Chinamen, negroes, Indians, and others of Oriental race, an association often leading to rioting and other evils; and what steps, if any, he intended to take in the matter.—Mr. SHORTT replied: I am aware that last year some disturbances arising from this cause occurred at Cardiff and other seaports, but no serious trouble of a similar character has come to my notice during the present year; and I find on inquiry that in East London there has only been one incident worth mentioning, when several arrests were made. If there should be any further trouble of this sort the police will deal with it as they would deal with any other disturbance of the peace.

Disabled Men's Complaint at Woolwich.

Mr. L'ESTRANGE MALONE asked the Minister of Labour whether his attention had been called to the fact that many disabled ex-Service men at Woolwich were being deliberately given work which aggravated their disabilities or which their disabilities prevented them from doing efficiently; and would he send an independent investigator to examine the evidence on this subject which was in the possession of the Woolwich branch of the National Union of Ex-Service Men.—Dr. MACNAMARA replied: My attention has not been called to any cases of this kind, but if particulars are supplied to me I shall be glad to make inquiry. I cannot imagine that it is true that disabled men are deliberately given work which aggravates their disabilities

Officers and Nurses held up at Alexandria.

Lieutenant-Colonel WALTER GUINNESS asked the Secretary for War whether troops and nurses on their way home for demobilisation had been waiting in certain cases at Alexandria since the month of April; whether he could state what was the reason of the delay; and what steps were being taken to deal with it.—Sir A. WILLIAMSON (Financial Secretary to the War Office) replied: I have recently caused full inquiries to be made into the allegations that officers and nurses have been detained for long periods at Alexandria awaiting passages, and from the reports recently received it appears that, although there has been delay, it has been unavoidable. In a report received at the end of June it was stated that no officers or nurses had been awaiting passage for as long as three months, and only three officers had been awaiting passage for more than five weeks. On June 19th there were 127 officers in the camp altogether awaiting passage and 52 nurses, and a special ship was arranged for the transport of these. As regards other ranks I am informed that there has been no delay whatever in their embarkation from Egypt since May last, as the third-class accommodation available has more than met the requirements.

THURSDAY, JULY 22ND.

Neurasthenia Treatment in Ireland.

Sir ROBERT WOODS asked the Minister of Pensions if it was the case that for the three southern provinces of Ireland the only institution for the treatment of discharged soldiers suffering from neurasthenia was Leopardstown Park, county Dublin; if the accommodation was limited to 35 patients; if there were at present awaiting admission there 248 men for whom treatment in that place had been recommended; and, if so, what steps he proposed to take to provide adequate accommodation for these distressing cases.—Mr. MACPHERSON replied: The facts are substantially stated in the question. Arrangements are, however, in progress to provide accommodation at Leopardstown Park for an additional 50 patients, and the question of providing further facilities for the treatment of this class of patient is engaging my earnest attention. I need scarcely remind my honourable friend that there are considerable local difficulties to be contended with, but I can assure him that everything possible will be done to meet the situation.

Deaths of War Pensioners.

Mr. TYSON WILSON asked the Minister of Pensions if he would give the number of persons who, having been granted pensions owing to injuries or disease caused by the late war, had died since the pension was granted them.—Mr. MACPHERSON replied: The approximate number of officers is 800 and of other ranks 30,000.

Pension Curtailments and the Medical Boards.

Captain BOWYER asked the Minister of Pensions whether he was aware that numerous cases of complaint had arisen with regard to the cutting down of the pensions of disabled soldiers irrespective of, and without apparent reference to, the awards of medical boards; would he state on what principle such pensions were cut down; and would he undertake that in future where the disability remained constant or increased that the pension should also either remain constant or be increased proportionately to the increased disability.—Mr. MACPHERSON replied: I am not aware of the numerous cases of complaint suggested in the question. All awards of pension under the Royal Warrant are in accordance with the findings of the medical boards by whom the pensioners are examined and no alteration is made in a board's original estimate of the degree of a man's disablement without further reference to the board, or the authority of a superior board after a fresh examination of the man. The present practice is, in fact, in accordance with the suggestion made in the last part of my honourable and gallant friend's question.

FRIDAY, JULY 23RD.

Experiments on Living Animals.

Sir J. BAIRD moved an address for a "return showing the number of experiments on living animals during the year 1919 under license granted under Act 39 and 40 Vict. Cap. 77 distinguishing the nature of the experiments."

MONDAY, JULY 26TH.

National Registration Acts.

Sir BURTON CHADWICK asked the Minister of Health if he would state what was the present position of the scheme of national registration; whether it was being kept up to date; for what purpose; and at what cost.—Dr. ADDISON replied: The National Registration Acts legally remain in operation until the official termination of the war. The answer to the second question is in the negative and the remaining questions do not arise.

Medical Examinations for Service Pensions.

Sir WATSON RUTHERFORD asked the Minister of Pensions whether a man who applied for a service pension was to be subjected to a fresh medical examination; and whether there were numerous cases where the service pension now granted was accompanied by such a reduction of the disability pension that both put together did not exceed the total amount formerly drawn on the disability alone.—Mr. MACPHERSON replied: The regulations regarding "service" pensions in addition to disablement pensions vary according to the length and nature of the man's service, and I regret that it is not therefore possible to give a comprehensive answer to this question. If my honourable friend has any specific cases in mind I shall be glad to give him full information on receiving the regimental particulars.

Medical Men at the Ministry of Health.

Sir J. D. REES asked the Minister of Health whether 32 doctors at £1000 a year were now to be appointed to work under his direction.—Dr. ADDISON replied: Yes, Sir. They are appointed to act as referee consultants under the National Health Insurance Scheme, with the object of protecting insurance funds from unnecessary claims to sickness benefit and improving the general standard of insurance medical practice. Funds for this purpose were voted by Parliament in 1914, but not spent during the war, owing to the impossibility of establishing this much needed extension of the Health Insurance Medical Service during that time.

TUESDAY, JULY 27TH.

Alleged Maggoty Flour at Macclesfield.

Mr. REMER asked the Food Controller whether his attention had been called to a statement by Councillor Webster, of Macclesfield, that a quantity of flour had been stored at the Beehive Mill, Bollington, since the early part of the war; that this flour was maggoty and unfit for human food; that the Ministry of Food had issued instructions that this flour should be sold locally owing to the cost of transport; and that a large quantity was at the present moment being sold to bakers in the borough of Macclesfield; whether these facts were correct; if so, whether he would take steps to prevent the distribution of food unfit for human food; and, if the statement was incorrect, whether he would cause the statement to be denied.—Mr. MCCURDY replied: My attention has been called to the statement in question, which is untrue in every particular. There is no ground whatever for this aspersion upon the conduct of the efficient officers whose duty it is to inspect at regular monthly intervals the stocks of flour belonging to the Royal Commission on Wheat Supplies lying at warehouses and mills.

Health of the Troops in Mesopotamia.

Mr. LAMBERT asked the Secretary for War if the health of the British troops in Mesopotamia was satisfactory, and if he could state the ratio of sickness among the forces in Mesopotamia as compared with those in the United Kingdom.—Mr. CHURCHILL replied: For the first three months of this year the health of the British troops in Mesopotamia was very satisfactory, the sick-rate being less than that in the United Kingdom. In April, the last month for which complete figures are available, the admission-rate per 1000 of strength rose owing to the seasonal incidence of sandfly fever, giving an annual ratio of 890·4 per 1000, compared with 644·6 per 1000 in the United Kingdom. The incidence of sandfly fever increased during May and June, but is now declining rapidly.

Welfare Work in Factories.

Sir BURTON CHADWICK asked the Minister of Health if he would state what steps were taken to maintain and stimulate the welfare work in factories initiated during the war.—Mr. SHORTT (Home Secretary) replied: The Home Office obtained statutory powers in 1916 to make Orders requiring the provision of welfare arrangements in factories, and a number of such Orders have been made for different classes of works dealing with the provision of mess-rooms and cloak-rooms, washing facilities, first-aid and ambulances, and other matters. The factory inspectors enforce these orders, and it is also part of their ordinary routine when visiting works to investigate the welfare conditions and to promote the development of welfare work. The Home Office has also endeavoured to assist and stimulate voluntary action on the part of employers. A series of official pamphlets has been issued explaining the principles on which welfare work is based and dealing with it in detail in its different aspects. Conferences have been held with representatives of the Universities, of employers and workpeople, of welfare workers and others on the important question of the selection and training of welfare workers, and generally on the development of welfare work. When opportunity has offered the subject has also been pressed on the attention of the Joint Industrial Councils. I am glad to state that the reports of the factory inspectors show that a widespread and increasing interest is being taken in this work and that steady progress is being made in the introduction and improvement of welfare arrangements.

Decisions of Medical Appeal Tribunals.

Mr. CHARLES EDWARDS asked the Minister of Pensions if he was aware that great dissatisfaction existed among ex-Service men through the decisions of the medical appeal tribunals, which deprived them of any further pensions notwithstanding the fact that many of these men were now unable to do the same work as before and were only able to do work of a less arduous nature at much lower wages than their former employment would now bring them in; whether many were discharged as totally unfit for further service, yet the result of the appeal tribunal was the same; if he would state how these tribunals were appointed; whether they were permanently employed by the Ministry; and what instructions were given them with reference to these examinations; and whether he would set up another tribunal with power to fully investigate the former condition of these men as regards health, for comparison purposes when the final examination was being made, and thus endeavour to give the greatest possible satisfaction to men who had so strong a claim upon the nation.—Mr. MACPHERSON replied: I am not aware of any grounds for thinking that the arrangements for appeal to medical appeal boards, to which presumably my honourable friend refers, are working otherwise than satisfactorily. These boards were constituted to give both disabled men and the Ministry the advantage of the advice of specialists in the various diseases of disability, and a specialist is always a member of an appeal board. Members are appointed by the Minister, and apart from the Deputy Commissioner of Medical Services of the area, who is a whole-time officer, they are remunerated on the basis of a fee per session. None of the members are in the permanent employ of the Ministry. No special instructions have been given to the appeal boards which would interfere with their unfettered judgment on the merits of each case that comes before them, and, in the circumstances, I see no advantage in constituting a new tribunal as suggested by my honourable friend. With regard to the ground of complaint alleged, I would remind my honourable friend that the accepted basis of the award of disablement pension is the medical estimate of the extent of the disablement consequent upon the disability which has been found to be due to the man's war service. Considerations as to the wages which a pensioner is capable of earning (which under the present system are expressely excluded from the assessment of pension) could not reasonably be introduced in those cases only where they would be to the man's advantage.

Imports and Exports of Extract of Male Fern.

Mr. WILLIAM GRAHAM asked the President of the Board of Trade whether he could state the exports and imports in the year 1913 of the extract of male fern technically described as ext. filicis liq. or ext. filicis maris, and what were the returns of export and import for the first six months of the present year, or for such post-war period as might be available; and whether such exports and imports were subject to any special arrangements giving preference to the products of any country.—Mr. BRIDGEMAN (Parliamentary Secretary to the Board of Trade) replied: In the year 1913 the value of the imports into the United Kingdom of extract of male fern was £739. I am unable to state the total value of the exports of this commodity during that year, or of either imports or exports during any post-war period, and I do not feel justified in having such particulars compiled, in view of the considerable expenditure of time which would be involved in the process. Extract of male fern is not dutiable, and no question of preference on the importation of the extract arises, but when it is imported dissolved in dutiable spirit preference is accorded on the dutiable ingredient if the latter is of Empire origin. No preference is given on the export of any goods.

Vaccination and the Glasgow Small-pox Outbreak.

Mr. ROBERT YOUNG asked the Secretary for Scotland, in reference to the Glasgow small-pox outbreak, whether any of the small-pox cases or deaths given in the return to July 12th, 1920, as unvaccinated had been vaccinated at any time either before the development of the disease or during the course of the disease; and, if so, would he give particulars.—Mr. MUNRO replied: In the return mentioned the classification of "unvaccinated" and "vaccinated" is determined by the condition at the date of exposure to infection. Of the 88 cases included under the heading "unvaccinated" 15 were vaccinated between exposure to infection and the development of the disease, 14 successfully and 1 unsuccessfully. Of these 15 cases 2 died. One was a child aged 2 months, who had been successfully vaccinated, and the other was a child aged 6 years, who was unsuccessfully vaccinated four days before the disease developed.

Medical News.

UNIVERSITY OF SHEFFIELD.—**The following** students have passed the Third M.B., Ch.B. examination held recently:—

Edgar S. Clayton, Mary P. Gell, Ronald D. S. Inman, Richard T. Lee, Elsa F. Paige, Robert Platt (distinction in Pathology), and Percival H. Sharp.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on July 22nd the following gentlemen, having passed the requisite examinations, were admitted Fellows:—

Harold Benge Atlee, James Clark Bell, Frederick Cameron, Alexander Rae Campbell, Frederick Ernest Feildon, Joseph Anthony Ferriere, Trevor Gayer Fetherstonhaugh, Thomas Watson Hancock, Sydney Lawrence Harke, William Knox Irwin, George Brownlee Isdale, Hugh Hunter Jamieson, Colin King, James Tait M'Auslin, Anthony John M'Creadie, William Archibald Mein, Abdul-Chani Neguib Misbah, Duncan Metcalfe Morison, George Thomson Mowat, William Graham Oakeley, Guy Harcourt Peall, Hugh Noel Murray Puckle, Matthew Edward Robinson, Robert Joseph Silverton, Andrew Fulton Sinclair, Francis William Stone, Frans Karel Te Water, and Cecil Uren.

LONDON SCHOOL OF TROPICAL MEDICINE.—**The** following are the results of the examination held at the end of the sixty-third session (May to July, 1920):—

*T. J. D. Lane ("Duncan" medal), *R. Jamison (P.M.O., Swaziland), *Miss E. J. O'Driscoll, *F. E. Reynolds, M. D. Mackenzie, J. M. MacKay (West African Medical Service), R. B. Hawes, J. Glavina (Malta), J. Forrest (Major, I.M.S.), V. E. Critien (Malta), S. A. Eldaab, J. V. Holmes, G. C. R. Wilson (Tanganyika Territory), and J. H. Parry (Tanganyika Territory).

* With distinction.

CENTRAL MIDWIVES BOARD FOR IRELAND.—**The** Board held their first examination for midwives on July 8th and 9th simultaneously at the Royal College of Surgeons, Dublin, the Queen's University, Belfast, and University College, Cork. Dr. Trevor N. Smith, Dr. Reginald G. White, Dr. Gerald Tierney, Dr. J. M. Gilmor, Dr. J. D. Williamson, Dr. John McLeish, Dr. John Booth, and Dr. Walter Rahilly acted as examiners. Seventy-three candidates presented themselves for examination, of whom 62 passed. The next examination takes place in October.

Dr. Mary Baird, now school medical officer at Torquay, has been selected as assistant medical inspector of schools in Natal.

Messrs. Cassell and Co. announce the early appearance of a seventh edition of Hutchison and Rainy's "Clinical Methods," and a fifth edition of Mr. Comyns Berkeley's "Handbook of Midwifery."

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY, LIMITED.—The first ordinary general meeting of the company will be held at Lincoln House, 300, High Holborn, London, W.C., on August 23rd, at 4.45 P.M.

Edwin Smith, M.D. Lond., barrister-at-law, deputy coroner for Westminster and South-West London and lecturer on forensic medicine at St. Thomas's Hospital, has been appointed coroner for the North-Eastern District of London.

OWING to present economic conditions the Council of the School Dentists' Society has decided to discontinue the printing of separate *Transactions* and to supply instead a copy of the *British Journal of Dental Science* to each of its members. Mr. A. E. Baker, the editor of the *Transactions*, will act as dental editor and deal with correspondence and papers relating to school dentistry.

AT a recent meeting at Plymouth of the South-western Centre of the Sanitary Inspectors Association Dr. A. B. Soltau, chairman of the Plymouth Public Health Committee, urged the importance of having milk graded in this country, and of making it impossible for any retailer or producer to send out for consumption milk which is bacteriologically contaminated.

Dr. James Miller, who has been appointed pro-fessor of pathology at Queen's University, Canada, graduated M.B. in 1899, saw service in South Africa with the Edinburgh and East of Scotland Hospital, and during the recent war was pathologist to the 2nd Scottish General Hospital. In 1902 he was appointed lecturer in bacteriology in the University of Birmingham, returning to Edinburgh in 1909 as lecturer in pathology and bacteriology to the School of Medicine of the Royal Colleges and to the Edinburgh School of Medicine for Women. For about ten years he has acted as pathologist at the Royal Infirmary and other Edinburgh hospitals.

BELFAST HOSPITALS BUSY.—**In connexion with** the disturbances in Belfast the hospitals have been busy with gun-shot rifle wounds, scalp injuries, and body contusions. At the Royal Victoria Hospital during last week-end about 25 cases were admitted with gun-shot wounds and 16 deaths occurred arising out of the riots.

A WELSH CHAIR OF TUBERCULOSIS.—**On the** occasion of the Royal visit to open the sanatoriums of the Welsh National Memorial Association at Langwyfan in North Wales and at Talgarth in South Wales, the announcement was made by the president, Major David Davies, that a chief medical officer would shortly be appointed, who would also be professor of tuberculosis in the Welsh National School of Medicine. The position, with 15 institutions containing over 1100 beds to direct, a staff of 24 medical officers, and a medical school developing entirely on the unit system, will be unique.

PRESENTATION TO DR. T. RIDLEY BAILEY, OF BILSTON.—The medical practitioners on the Staffordshire panel entertained Dr. T. Ridley Bailey, chairman of the County Panel and Local Medical Committees, to luncheon on July 23rd. The Mayor of Stafford, Dr. F. Milnes Blumer, presided. After luncheon Dr. Bailey was presented with a gold cigarette case and a cheque.

MICHELL CLARKE MEMORIAL FUND.—**This fund,** opened in 1918, to collect a sum to commemorate the services of the late Professor John Michell Clarke to the cause of medical education in Bristol, has reached a total at which it will be possible, after paying for the publication of a volume reprinting some of his published writings, to devote about £1000 to the endowment of a fund for the purchase of books and periodicals on clinical medicine for the Bristol Medical Library. Should any friends of Professor Michell Clarke still wish to add to this fund they should address contributions to Mr. James Rafter, Registrar, University of Bristol.

VETERINARY SURGEONS AND QUACKERY.—Mr. W. Scott, F.R.C.V.S., presiding at a meeting at Bristol of the recently formed Mid-West of England and South Wales Veterinary Association, said that quacks were thriving on the credulity of animal owners, using drugs of which they knew nothing upon their dumb patients, of whose structures they had no scientific knowledge. The loss to the animal owner and State through this malpractice must be colossal, and Government legislation was urgently demanded. Animals were protected from cruelty, but there was nothing done to protect them from quackery and maltreatment.

THE PLYMOUTH MEDICAL CHARITIES.—**The** Committees of the South Devon and East Cornwall Hospital and the Royal Albert Hospital have decided that in future, although necessitous cases will be treated free of charge, a minimum charge of half a guinea weekly will be charged for in-patient treatment, and a charge of 6*d.* for each attendance after the first, including accident cases. These fees have been rendered necessary owing to the financial position of the charities.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—On Saturday, July 24th, the Sir Alfred Jones laboratories of the Liverpool School of Tropical Medicine were formally opened by Lord Leverhulme. The proceedings were presided over by Sir Francis Dawson, chairman of the school, who stated in his introductory remarks that the laboratories had been built and equipped by funds placed at the disposal of the committee by the executors of the late Sir Alfred Jones—the founder and staunch friend of the school. In an eloquent speech Lord Leverhulme paid a high tribute to Sir Alfred Jones as a man of indefatigable energy and large vision, and stated that his work on behalf of tropical medicine was his best monument. The laboratories, which were completed just before the war, were in use until last year as a military hospital, devoted specially to cases of malaria and other tropical diseases. Since being handed back by the War Office they have been repainted and decorated, and the function of Saturday marked their formal opening. Situated in Pembroke-place, within easy reach of the Royal Infirmary and the University, the laboratories are commodious and up to date. On the ground floor there is an excellent museum, the exhibits in which excited great interest among the guests at the opening function, a lecture room, and a well-equipped library. The higher floors are devoted to laboratories for research and instruction. In the evening Sir Francis Dawson gave a banquet in the Exchange Hotel to over 100 guests, when tribute was paid to the work of the tropical school, and hopes were expressed for the work to which it is setting its hand.

A SOMERSET SUPER-CENTENARIAN.—**Mr. F. W.** Stabbins, of Worle, near Weston-super-Mare, has recently celebrated his 105th birthday.

IN recognition of his long and distinguished connexion with the David Lewis Northern Hospital the committee of that institution has established a special department for the study of neurology, which is to be called "The W. B. Warrington Department for Nervous Diseases." This is generally regarded as a fitting tribute to the memory of one who did much pioneer work in this branch of medicine while honorary physician there.

DEATH OF DR. ARTHUR SHEPHERD.—The death took place at Shethin, Tarves, on July 19th, of Arthur Shepherd, M.B., Ch.B. Aberd., Major, R.A.M.C., youngest son of the late Mr. George Shepherd, of Shethin. He was educated at the Aberdeen Grammar School and University, where he graduated in 1907, joining the R.A.M.C. in the same year. About 10 years ago he was sent to India and during the war he was in Mesopotamia with the Expeditionary Force. While abroad he contracted malaria and to a recurrence of the fever, when home on leave, his death is attributed. Major Shepherd was 35 years of age and unmarried.

THE LATE DR. R. M. SMYTH.—Dr. Robert Milner Smyth, assistant medical superintendent of Addington Hospital, Durban, Natal, was found dead in his bedroom by a native servant early in the morning of Wednesday, June 23rd. Death is certified to have been due to heart failure. Dr. Smyth was born in Dublin on Dec. 10th, 1868, and received his professional training at the Royal College of Surgeons, Ireland. Going out to Natal in 1898 he had served 22 years at the Addington Hospital, where he won a high reputation as a surgeon, and was socially very popular. He served with the British Forces in the Boer War in the capacity of civil surgeon, and he also saw service in the Natal Native Rebellion of 1906, and held medals and clasps for both campaigns. In the late war he served through the campaign in German S.W. Africa as O.C. No. 3 General Hospital, Northern Force, Swakopmund, and was promoted lieutenant-colonel, South African Medical Corps. Afterwards he was medical embarkation officer at the port of Durban, and was also in charge of the military section of Addington Hospital. For these services he was given the O.B.E. The funeral took place at Durban, and was accorded military and Masonic honours.

THE HOSPITALS OF DEVON.—The first meeting of the Devon Joint Committee of the British Red Cross Society and Order of St. John for the coördination of voluntary nursing and similar service was recently held at Exeter, when Sir Napier Burnett gave an interesting address. He stated there were 21 Poor-law infirmaries in Devon with 1484 beds, 19 or 20 infectious diseases hospitals with 469 beds, and 40 voluntary civil hospitals, including dispensaries, with 1160 beds. This made a total of 80 hospitals, 3113 beds, representing 4·44 beds for each 1000 of the population. The ratio for the beds in the voluntary civil hospitals was 1·65 per 1000, and this was nearly sufficient in an agricultural county with a scattered population, but in an industrial centre like Plymouth it should be about 3 per 1000. Sir N. Burnett remarked that broadly speaking Devon was not badly off for hospital accommodation, and also alluded to the fact that the Poor-law infirmaries in this country were more than half empty, adding that in one city there were 1000 vacant beds in these institutions, while in a civil hospital in the same city there was a large list of cases waiting for admission.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At the annual meeting of the association, held in London on July 15th, a discussion on Changes in the Poor-law Medical Service was introduced by the chairman of council, Dr. A. Lionel Baly, medical superintendent of the Lambeth Infirmary, who suggested that medical practitioners should be allowed to treat their own patients after removal to the infirmary. He held that there was nothing wrong with the Poor-law itself, but that it needed to be rightly administered. Dr. A. Withers Green, honorary secretary of the association, read a paper showing the increasing tendency to take the care and treatment of the sick out of the hands of the part-time district medical officers and to place it in those of the whole-time infirmary medical staff. The consequences which would result from this limitation were fully discussed, and the following resolution was passed unanimously:—

> We, the Poor-law Medical Officers' Association of England and Wales, view with alarm the attempt now being made in some quarters to eliminate part-time district medical officers, to the disadvantage, we maintain, of the sick poor, and to place Poor-law treatment into the hands of whole-time resident medical officers in the various infirmaries. We consider it inadvisable that changes of this description be made till such time as the whole subject has been carefully considered and the best scheme for the general welfare has been decided upon.

A copy of the resolution is being sent to the Ministry of Health and to each of the boards of guardians in England and Wales.

MANCHESTER SMOKE SCREEN.—Under the presidency of Lord Newton, the Government Departmental Committee on Smoke and Noxious Vapours Abatement held two public meetings in Manchester last week. Apart from its effect on the health of the community, smoke is said to cause a loss of £1,000,000 annually in Manchester, and the question is what changes in the law in regard to pollution of the air would be likely to materially improve matters and lessen the heavy annual tax on health and property. Half of the smoke screen was alleged to be due to domestic fires, and consequently witnesses, bore testimony to the rival claims of gas and electricity for heating and domestic purposes. A cloud of witnesses testified to the magnitude and urgency of the evil, but the remedies suggested were few. The law already provides certain safeguards, but it was alleged that various local authorities were very lax in applying such rules the law prescribes; hence suggestions arose that instead of the regulations being left to be applied by the local authorities, they should be carried out by Government officials. Farmers complained of the deleterious effects of chemical fumes in the neighbourhood of Runcorn, others of the disastrous effects on their crops and cattle, and all the witnesses of the ineffectiveness of the inspection under the Alkali Act and of the difficulty of obtaining compensation for losses suffered. Pieces of muslin curtains, which had been hung in different parts of the city for periods of 7 to 14 days were all more or less black from the effects of smoke and emissions from chemical works. As to the health aspect, smoke by intercepting the direct rays of the sun made people more readily liable to tuberculosis, while fogs increased the mortality from phthisis, pneumonia, and bronchitis. It was suggested that in addition to local smoke inspectors there should be other inspectors appointed by the Ministry of Health with power to institute proceedings independently. The committee besides taking evidence visited some works in the district.

ABERDEEN UNIVERSITY COURT.—At the recent meeting of the Aberdeen University Court, Principal Sir George Adam Smith presiding, the secretary intimated receipt of a legacy of £250 from the representatives of the late Dr. Albert J. Venn, of London, who graduated at Aberdeen University M.B. in 1872 and M.D. in 1875. He also reported receipt of a gift of £250 for the medical school from the executors of the estate of the late Mr. James Munday. The offer was accepted of a stained-glass window for the University, bequeathed by the late Mrs. Shand, widow of Professor Smith Shand, who occupied the chair of medicine in Aberdeen University for a long period. The Court decided to instal electro-cardiographic apparatus within the Faculty of Medicine. Dr. R. D. Lockhart, was appointed a lecturer in anatomy. It was agreed to institute a full-time lecturer in bacteriology within the department of pathology.

PRESENTATIONS TO MEDICAL MEN.—On the occasion of his retiring from the post of senior honorary surgeon to the Liverpool Stanley Hospital, Mr. F. C. Larkin was last week presented with a testimonial by a number of his medical and surgical friends. The testimonial took the form of an address, a copy of one of Haig's etchings, and a cheque. The presentation was made by Sir James Barr at a special meeting held in the Liverpool Medical Institution.—The Hospitals Committee of the Liverpool City Council made its annual inspection of the hospitals last week, and at the luncheon at Fazakerley Hospital the opportunity was seized to present Dr. Claude Rundle, who has been superintendent of the institution for the past 14 years, with a silver salver and a Georgian cake-dish on the occasion of his recent marriage.

A MEDICAL CENTENARIAN.—Dr. James Scarth Spence Logie, who died at Kirkwall, Orkney, on July 17th, in the 101st year of his age, was a son of the late William Logie, D.D., minister of St. Magnus Cathedral. He was educated at the Grammar School, Kirkwall, and Edinburgh University, and qualified L.R.C.S. Edin. in 1841, graduating the following year M.D. Edin. After qualifying he was for a short time an assistant in Carlisle before going for further study to Paris, returning to Kirkwall, whence his practice soon extended over the whole of Orkney. When he started practice there were no made roads in the islands, nor, with the exception of farm carts, wheeled vehicles. His professional visits were made on horseback over rough hill tracts or in small sailing-boats to the neighbouring islands, which in rough weather entailed constant danger. Dr. Logie, who had been medical officer to the Balfour Hospital, Orkney, and to the prison at Kirkwall, was also medical officer of health for that town. He completed his 100th year on May 12th last, when he was the recipient of letters and telegrams from the King, the Senatus of the Edinburgh University, and from the General Assembly of the Church of Scotland, of which he had been ordained an elder in 1855. Dr. Logie is survived by a daughter.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BROADWAY, T. B., M.B., Ch.B. Glasg., has been appointed Public Vaccinator for Dorchester.

BROMLEY, L., M.Ch., F.R.C.S., Surgeon to the Neurological Department, Guy's Hospital.

DAWE, J. H., M.B., C.M. Edin., Assistant Medical Officer at the Devon and Cornwall Sanatorium for Consumptives, Didworthy, Dartmoor.

GABRIEL, W. B., M.S. Lond., F.R.C.S. Eng., Assistant Surgeon to St. Mark's Hospital for Diseases of the Rectum, City-road, E.C.

KENDREW, A. J., *M.C.*, M.B., B.S. Lond., L.R.C.P., M.R.C.S., Honorary Surgeon to the North Devon Infirmary, Barnstaple.

SHEEN, A. W., C.B.E., M.S. Lond., F.R.C.S., Visiting Surgeon (for General Surgery) to Ministry of Pensions Hospitals, Orpington and Shepherd's Bush.

Certifying Surgeons under the Factory and Workshop Acts: BURNELL, G. F. (Truro); SPONG, J. F., M.R.C.S. Eng. (Tooting); YEOMAN, W. M., M.B. Durh. (Stokesley, North Riding).

Vacancies.

For further information refer to the advertisement columns.

Aberdeen University.—Lecturer in Bacteriology. £500. Also Asst. in Path.

Bath City.—Asst. M.O.H. and Asst. Sch. M.O. £550.

Battersea General Hospital (Incorporated), Battersea Park, S.W.—Res. M.O. £200.

Birkenhead Borough Hospital.—Jun. H.S. £200.

Birmingham General Dispensary.—Res. M.O. £400.

Birmingham University.—Lect. in Physiology. £250.

Bolingbroke Hospital, Wandsworth Common, S.W.—H.S. £150.

Bournemouth, Royal Victoria and West Hants Hospital.—Res. M.O. £200.

Bradford City Hospital, Leeds-road.—Asst. M.O. £350.

Bristol Royal Infirmary.—Non-Res. Anæsth. £100.

Chester Royal Infirmary.—H.P. £150.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Res. M.O. £250. Also H.P. £100.

Colchester, Severalls Mental Hospital.—Asst. M.O. 7 gs. per week.

Colonial Service.—M.O.'s for West African Medical Staff, Government Service in Malaya, East African Protectorates, West Indies (including British Guiana), Fiji, and the Western Pacific, &c.

Coventry Education Committee.—Two Sch. Dentists. £500.

Croydon General Hospital.—Second H.S. £150.

Derby County Borough Education Committee.—Asst. Sch. M.O. £500.

Derby, Derbyshire Education Committee.—School M.O.'s. £550.

Dumfries and Galloway Royal Infirmary.—Res. H.S.

Fulham Metropolitan Borough.—M.O. £1 11*s.* 6*d.* per session.

Gartnavel, Glasgow Royal Asylum.—Asst. M.O. £300.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—H.P. £175.

Hereford County and City Mental Hospital.—Jun. Asst. M.O. £350.

Hull Royal Infirmary.—Asst. H.S. £150.

Isle of Ely County Council.—Clin. Tuberc. O. and Asst. M.O.H. and Sch. M.O. £600.

Johannesburg, South African Institute for Medical Research.—Asst. Bacteriologist. £800.

King's Lynn, West Norfolk and King's Lynn Hospital.—Res M.O. £150.

Leasowe Hospital for Children, Cheshire.—Jun. M.O. £200.

Leeds City Tuberculosis Sanatorium, Killingbeck.—Res. Asst. M.O. £300.

Leeds General Infirmary.—Res. Surg. O. £200.

Leicestershire and Rutland Mental Hospital, Narborough, near Leicester.—Jun. Asst. M.O. £300.

Leith Hospital.—H.S. and H.P. £100.

Lincoln County Hospital.—Jun. H.S. £150.

Liverpool, David Lewis Northern Hospital.—Two H.P.'s and Three H.S.'s. £120. Also Asst. M.O., V.D. Dept. £150.

Liverpool, Fazakerley Sanatorium.—Asst. Res. M.O. £300.

Liverpool, Royal Children's Hospital.—Hon. P. and Hon. Asst. S.

Liverpool School of Tropical Medicine.—Three Medical Men for Clinical and Research Work in Tropical Medicine.

Llanelly Borough.—M.O. and Schools M.O. £750.

London Jewish Hospital, Stepney Green, E.—Clin. Asst. £70.

London Temperance Hospital, Hampstead-road, N.W.—Asst. Res. M.O. £120.

Louth Union.—M.O. £180.

Maidstone, Kent County Mental Hospital.—Jun. Asst. M.O. £300.

Maidstone, West Kent General Hospital.—H.S. £250.

Manchester Children's Hospital, Pendlebury, near Manchester.—Two Res. M.O.'s. £150.

Manchester, City of.—M.O. £450 and war bonus of £307 15*s.* 6*d.*

Manchester, Crossley Sanatorium, Delamere Forest, Cheshire.—Asst. M.O. £350.

Manchester, Hulme Dispensary, Dale-street.—H.S. £400.

Manchester, Monsall Fever Hospital.—Sec. Med. Asst. and Third Med. Asst. £300 each.

Middlesex Hospital, W.—Cas. M.O. £2 a week.

Miller General Hospital for South-East London.—H.S. £150.

Newcastle-upon-Tyne, Hospital for Sick Children.—Jun. Res. M.O. £200.

Preston Royal Infirmary.—Res. M.O. £180.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Asst Res. M.O. £60.

St. Mark's Hospital for Cancer, Fistula, and Other Diseases of the Rectum, City-road, E.C.—H.S. £250.

St. Thomas's Hospital Medical School, Albert Embankment, S.E.—Demonstrator of Anat. £400.

Sheffield, East End Branch of the Children's Hospital.—H.S. £150.

Sheffield Royal Infirmary.—H.P. £150. Also Hon. M.O.

South London Hospital for Women, South Side, Clapham Common, S.W.—Female H.S. £100.

Southport General Infirmary.—Sen. H.S. and Jun. H.S. £250 and £175 respectively.

Stafford, Staffordshire General Infirmary.—H.S. £250.

Stockport General Infirmary.—Jun. Res. S. £200.

Sunderland Royal Infirmary (Children's Hospital).—Female Jun. Res. M.O. £150.

Swansea General and Eye Hospital.—Jun. H.S. £200.

Swindon Borough.—M.O.H. and Med. Supt. of Isolation Hospital. £900.

Taunton and Somerset Hospital.—Sen. and Jun. H.S.'s. £200 and £150 respectively.

Tiverton Hospital, Devon.—H.S. £100.

West End Hospital for Nervous Diseases, 73, Welbeck-street, W.—H.P. £250.

Windsor, King Edward VII. Hospital.—H.S. £200.

Worcestershire County Council.—Asst. County M.O.'s and Sch. Oculist. £500 each.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Loughor.

Births, Marriages, and Deaths.

BIRTHS.

HEWITT.—On July 19th, at Pelton Holme, Ben Rhydding, Yorkshire, the wife of R. Conrad Hewitt, M.R.C.S., L.R.C.P., of a daughter.

PAVEY-SMITH.—On July 25th, at 9, Victoria-avenue, Harrogate, the wife of A. B. Pavey-Smith, *M.C.*, F.R.C.S., of a son.

WILSON.—On July 23rd, at Putney-hill, S.W., the wife of Alex. Wilson, M.D., of a son.

MARRIAGES.

KENNAWAY—DERRY.—On July 24th, at Christ Church, Lancaster-gate, Ernest Laurence Kennaway, M.D., D.Sc., to Nina Marion Derry, younger daughter of the late William Derry, of Birmingham, and Mrs. Derry.

DEATHS.

MCGHIE.—On July 23rd, at Bongate House, Appleby, Robert McGhie, M.D., of Oaklands, Mountain Ash, and of Trows, Lesmahagow, aged 50 years.

SANDILAND.—On July 7th, suddenly, Arthur Henry Sandiland, M.R.C.S., L.R.C.P., of 137, Southgate-road, London, N., aged 73 years.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, London.
The Socialist Illusion. By R. Tayler. Pp. 137. 2*s.* 6*d.*

BLACKWELL, BASIL, Oxford.
The Wooden Pegasus. By Edith Sitwell. Pp. 120. 6*s.*

BOHN, DE E. F., Haarlem.
Vergleichende Anatomie des Nervensystems. By Dr. Æ. B. Droogleever Fortuyn. Pp. 370. 12.50 Dutch guilders.

CHURCHILL, J. AND A., London.
Electro-Therapy: Its Rationale and Indications. By J. Curtis Webb, M.B. Pp. 90. 5*s.*

CORNISH BROS., Birmingham.
Original Observations and Theories on Cardiac Disease and the Normal Heart, with a Note on Alcohol. By M. B. Shipsey, M.B., B.Ch. Pp. 40. 1*s.* 3*d.*

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.
Manual of Medicine. By A. S. Woodwark, M.D. 2nd ed. Pp. 487. 16*s.*

KARGER, S., Berlin.
Berliner Arzneiverordnungen mit Einschluss der physikalisch-diätetischen Therapie. By Dr. P. Reckzeh. Pp. 192.
Kompendium der Kinderheilkunde. By Prof. A. Niemann. Pp. 334.
Trauma und Nervensystem. By Dr. T. van Schelven. Pp. 304.
Die Hysterie. By O. Lessing. Pp. 46.
Wochenbett und Säuglingspflege. By Prof. E. Martin. Pp. 96.

"LA SEMANA MEDICA," Buenos Aires.
Las Amputaciones Cineplasticas. By Dr. G. B. Arana. Pp. 352.

MASSON ET CIE, Paris.
L'Anesthesie Locale en Ophtalmologie. By Dr. Durerger. Pp. 96. Fr. 6.50.

SANDS AND CO., London.
Vitalism and Scholasticism. By B. C. Windle, M.D., F.R.S. Pp. 356. 8*s.* 6*d.*
Twenty Cures at Lourdes Medically Discussed. By Dr. F. De Grandmaison. Authorised translation by Rev. H. G. Bérenot and Rev. L. Izard, M.R.C.S., L.R.C.P. With Preface by Sir Bertram Windle, M.D., F.R.S. Pp. 272. 7*s.*

YALE UNIVERSITY PRESS, New Haven, Connecticut, 280, Madison-avenue, New York City.
Collected Studies on the Pathology of War Gas Poisoning. By Major Milton C. Winternitz, M.D., M.C., U.S.A. Pp. 166. $20.00.

Medical Diary.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

LONDON HOSPITAL MEDICAL COLLEGE.

MEDICAL UNIT, in the Clinical Theatre of the London Hospital, E.

A Course of Twelve Lectures on Neurology, open to Students and Graduates of the London Hospital and other Schools—

TUESDAY, August 3rd.—2 P.M., Lecture VII.:—Dr. Riddoch: Disorders of Sensibility from Lesions of Thalamus and Cerebral Cortex.

WEDNESDAY.—2 P.M., Lecture VIII.:—Dr. Thompson: Polyneuritis.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

TUESDAY, August 3rd.—12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 4.30 P.M., Mr. Addison: Practical Surgery. I.

WEDNESDAY.—11.30 A.M., Mr. MacDonald: Demonstration of Cystoscopy. 4.30 P.M., Dr. Simson: Gynæcology.

THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 4.30 P.M., Dr. G. Stewart: The Sympathetic Nervous System.

FRIDAY.—12.15 P.M., Dr. Burnford: Applied Pathology. 4.30 P.M., Mr. B. Davis: Clinical Lecture:—I., Throat and Ear.

SATURDAY.—12 noon, Mr. Sinclair: Surgical Diseases of the Abdomen.

Daily:—10 A.M., Ward Visits. 2 P.M., In-patient, Out-patient Clinics and Operations.

MALE LOCK HOSPITAL, Dean-street, W.

MONDAY, August 2nd, WEDNESDAY, AND FRIDAY.—5 P.M., Dr. C. Russ: Demonstration of the Treatment of Gonorrhœa by Electrolysis.

CANCER HOSPITAL, Fulham-road, S.W.

Clinical Lectures on the Diagnosis and Treatment of Cancer.

FRIDAY, August 6th.—4.30 P.M., Mr. P. P. Cole: Cancer of the Lips and Jaws.

Communications, Letters, &c., to the Editor have been received from—

A.—Dr. J. L. Aymard, Cape Town; Actors' Orphanage, Lond.

B.—Dr. F. J. H. Bateman, Lond.; Mr. G. Bethell, Lond.; Dr. J. Brown, Blackpool; Miss Bligh, Paris; Lt.-Col. Sir J. W. Barrett, Melbourne; Sir J. Byers, Belfast; Mr. J. Burns, Edinburgh; Col. R. J. Blackham, Bearsted; Dr. W. C. Bosanquet, Lond.; Dr. W. Bell, Lowestoft; Mr. T. R. Brown, Sheffield.

C.—Central Midwives Board for Ireland, Dublin; Dr. F. G. Cawston, Durban; Dr. W. Cramer, Lond.; Messrs. Cassell and Co., Lond.; Dr. E. F. Cyriax, Lond.; Dr. C. Cuthbert, Glasgow; Dr. C. Coombs, Bristol.

D.—Dr. T. V. Dickinson, Lond.; Prof. G. Dreyer, Oxford; Mr. F. C. Doble, Oxford; Dr. S. Davies, Lond.

E.—Mr. L. Edwards, Lond.

F.—Freemasons' Hospital and Nursing Home, Lond.

G.—Dr. L. Gordon, Lond.; Great Northern Central Hospital, Lond., Sec. of; Dr. A. K. Gordon, Lond.; Dr. H. L. Gordon, Lond.

H.—Prof. W. S. Handley, Lond.; Dr. A. F. Hurst, Windsor.

I.—Insurance Committee for the County of London.

J.—Dr. D. L. Jones, Merthyr Tydfil; Dr. G. G. Johnstone, Lond.

K.—Mr. H. Kimpton, Lond.; Dr. R. Knox, Lond.; King Edward's Hospital for London; Dr. A. F. S. Kent, Manchester.

L.—Mr. R. Lake, Lond.; Dr. C. Lillingston, Gorleston-on-Sea; Dr. A. Loxton, Birmingham.

M.—Dr. W. C. Morton, Leeds; Dr. A. McCall, Lond.; Ministry of Health, Lond.; Ministry of Pensions, Lond.; Dr. J. A. Murray, Lond.; Medical Sickness, Annuity, and Life Assurance Society, Lond.; Dr. H. MacLean, Lond.; Dr. J. B. McDougall, Wakefield; Dr. D. MacAlpine, Lond.; *Medical Times*, New York.

N.—Mr. W. R. Newman, Lond.; Messrs. Joseph Nathan and Co., Lond.; National Safety Council, Lond.

O.—Dr. C. M. O'Brien, Dublin; Oxford Ophthalmological Congress, Hon. Sec. of.

P.—Mr. H. Platt, Manchester; Dr. V. Pleth, Sonora, California; Mr V. G. Plarr, Lond.; Panel Committee for the County of London; Sir D'Arcy Power, Lond.

Q.—Queen's University of Belfast.

R.—Royal Society of London; Dr. G. Riddoch, Lond.; Dr. J. E. H. Roberts, Lond.; Dr. J. A. Ryle, Lond.; Research Defence Society, Lond.; Dr. J. D. Rolleston, Lond.; Mr. A. de F. M. Robert, Jersey.

S.—Mr. R. V. Stanford, Cardiff; Messrs. G. Street and Co., Lond.; Dr. T. H. C. Stevenson, Lond.; Dr. J. Sinclair, Lond.; School Dentists' Society, Lond.

T.—Sir W. Thorburn, Lond.; Mr. R. Thompson, Lond.

U.—University Grant Committee, Lond., Sec. of; University of Bristol; University of Sheffield, Registrar of.

W.—Dr. H. de C. Woodcock, Leeds; Dr. F. J. Waldo, Lond.; Worcester, Medical Officer of Health of; Rev. A. B. W. Whatton, Parkhurst; Sir G. S. Woodhead, Cambridge; Sir A. Lisle Webb, K.B.E., A.M.S., Lond.; Dr. G. Ward, Sevenoaks; White Star Line, Lond.; Dr. R. McN. Wilson, Lond.; Dr. C. H. Warner, Nottingham; West London Hospital Post-Graduate College; War Office Publicity Department, Lond.; Dr. W. A. Wynn, Birmingham.

Communications relating to the editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, London, W.C. 2.

Notes, Short Comments, and Answers to Correspondents.

DISEASES AND SOCIAL HABITS.

Sir Humphry Rolleston, in a recent address on "The Change of Type of Disease," has pointed out that "the varying resistance of the population to disease is concerned with both the periodicity of disease and the character of the epidemics," and, further, that "the resistance of individuals and races is obviously influenced by environment, such as overcrowding, overwork, bad food, and alcoholism, and thus both the incidence and the severity of the disease—conditions which must be distinguished from each other—become increased." Diseases, in fact, are prone to rise and fall as do empires, and the habits of men have much to do with these changes. In a charming book, "Sussex in Bygone Days," noticed in these columns on the occasion of the author's recent death, the late Mr. Nathaniel Paine Blaker, a well-known Brighton practitioner, reviewed the changes in social habits observed by him in the course of a long life in their influence on disease types. Two such changes—namely, growing temperance and respect for ventilation—have during the last 50 or 60 years been factors in the improvement of national health. In the earlier half of the last century, and, indeed, to well within living memory, the idea prevailed that night air was a carrier of disease by means of what was known as "miasma," and that at all costs it must be excluded from sleeping-rooms. According to Mr. Blaker the superstition dated from the days before coal came into general use, and arose out of the difficulty of warming the air, while disease was generally believed by our ancestors to be air-borne.

In compiling the lives of some 2000 medical men, whose activities lay in the period 1820–1920, Mr. Victor Plarr has had occasion to note that the careers of individuals practising in town and country are in some degree a reflection of changes in the social habits of their patients. In the earlier part of this selected period medical men worked hard, lived hard in a sense, and died comparatively young. Up to about the "eighties" of last century they mostly died soon after attaining the age of 60. For some reason or other 62 was for a long period the age at which the country practitioner departed this life. After the eighteen-eighties there occurs a marked change, and octogenarians become increasingly frequent. Mr. Blaker himself was 83 when he died on March 12th, 1920. The old physicians and surgeons prescribed stimulants and often took them themselves. Their patients drank a vast amount, and the short life and the merry one was in many cases the order of the day. It is a question, indeed, now that stimulants, especially wine, are too expensive to be freely indulged in by educated men whether life does not promise to become, not short and merry, but a *longueur*, punctuated by financial anxieties, carping tempers, and a constant pessimism. The word "fun," so common in old biographies, is not now heard or written. One is almost tempted privily to envy the old gentleman of 94 who told Mr. Blaker that he attributed his excellent health at a great age to his moderation in the matter of wine. "I was always very careful, I never drank much wine," said the venerable Mr. New, of Southwick, to his chuckling professional friend. "Five or six glasses at dinner, and the same after dinner, but I used to drink punch from 6 o'clock at night to 6 o'clock next morning." Like their patients the old country doctors probably never felt quite warm in winter. Wool was not worn; flannel was regarded as effeminate wear. Their glow was rather internal than external as they rode for miles on horseback or with numbed limbs on the top of a coach. The cold bath, or, indeed, any sort of all-over ablution, was little known before 1840. A man rose in his ultra-stuffy bedroom, suffering, it might be, from the "fun" of last night's punch, and experienced no glow from the morning bath. He breakfasted and dined too heavily, supped too late, was booted and riding on vile roads in all weathers for very many hours, played cards at night in close air, drank much incidentally, slept a very short series of hours, and died with worn-out arteries at a time when middle-age now begins. But he often laughed uproariously, and the open air was good for him, as Mr. Blaker points out. There is another side, however, to the picture. The Early Victorian medical man was often a pioneer in his own district of sanitary reform, though he may have set a poor example to his patients in matters of personal health. Ruining his own health by drinking that of others, he nevertheless often ruined his own private practice, unconsciously but honourably, by promoting public health, especially by the new methods of water-supply which came into vogue and honourably distinguished the history of

boroughs and rural districts under Queen Victoria. In the series of 2000 medical men to which we have already referred a very large proportion were sanitarian reformers in their own districts.

THE METROPOLITAN WATER-SUPPLY DURING JANUARY, FEBRUARY, AND MARCH, 1920.

WITH a slightly increased rainfall in January, 1920, compared with the average of the previous 37 years, there were variations in the quality of the raw water and drinking supplies from the different sources. The results of the chemical examination showed that the Thames raw water improved in quality, while that of the Lee deteriorated. The New River raw water gave a good chemical return, but with turbidity and bad colour. The filtered waters showed, generally speaking, a fall in chemical quality, but they were satisfactory from the bacteriological standpoint. February was a comparatively dry month, and the results of chemical examination indicated the Thames, Lee, and New River raw waters to be improved in quality, and the same results are reported in the case of the filtered waters. Compared with the year 1919 the Thames raw water proved to contain more, and the Lee and New River waters fewer, bacteria. The filtered waters were, however, satisfactory. The month of March showed a normal rainfall, and the chemical purity of the raw waters was maintained. The filtered waters also gave good results on chemical examination, and the raw waters of all three rivers contained fewer bacteria than the corresponding month in 1919; the bacteriological examinations of the filtered waters followed suit.

ROYAL ARMY VETERINARY CORPS.

IT appears from a recent reply to a question in the House of Commons that the post-war establishment of the Royal Army Veterinary Corps has not yet been finally settled. On a pre-war basis the establishment, including India, is 1 major-general, 6 colonels, 6 lieutenant-colonels, and 156 majors, captains, and lieutenants. The last three ranks are grouped under one head as promotion to the rank of major is by length of service. There are at present 3 major-generals, two of whom are holding colonels' appointments and are included in the establishment of colonels, on which there is no deficiency or surplus. There is a surplus of 2 in the rank of lieutenant-colonel. Two lieutenant-colonels hold the acting rank of colonel and 3 majors hold the acting rank of lieutenant-colonel owing to the temporary continuance of colonels' and lieutenant-colonels' appointments in excess of the normal requirements. Allowing for a recent increase of establishment of 30 in India, there is a total deficiency of 11 in the establishment of regular officers of the corps, which is met by the employment of Special Reserve, Territorial Force, and temporary officers. All officers are paid at the rates laid down for their rank with the exception of the major-general holding a colonel's appointment in England, who is paid as a colonel. Since April, 1918, 2 lieutenant-colonels, 7 majors, and 8 captains have voluntarily retired, and no further retirements are at present under consideration.

FLOUR AS CATTLE FOOD.

THE Ministry of Food denies that there has been any increase in recent years in the number of firms mixing with cattle food flour purporting to be damaged and unfit for human food, nor is there reason to believe that any proportion of flour which is condemned as unfit for human food would be suitable for bread or for like purposes. The enforcement inspectors of the Ministry are constantly engaged in making investigations with a view to detection of offences against the orders relating to the use of flour for purposes other than human food.

A SHERRYGLASSFUL.

THE following prescription was brought by a patient to the practitioner who has sent it on to us for our consideration:—

For Mr. P. *Mixture No. 1.* 1920.

℞. Quininæ Sulphatis, grs. 80.
Acidi Sulph. dil. q.s.
Aquam, oz. 8.

Solve. Half a sherryglassful (2 tablespoonfuls or one-eighth of the bottleful) every day just before breakfast, without fail. The bottle to be refilled once a week for more weeks.

It was received by the sufferer from a specialist on a medical board. Our correspondent criticises the prescription severely from the point of view that it emanates from a specialist, but we take it that the special learning of the physician was rather displayed in making the diagnosis than in inventing the prescription. There can be no doubt that in many cases the treatment would be quite efficacious. One thing that has puzzled our correspondent in this prescription is "how the specialist came to think of this measure—the sherryglassful"; but surely the connexion of the wineglass with prescribing is fairly old and originated at a time when the wineglass was uniform in capacity and constituted the eighth of a bottle. Since those days wineglasses have been enlarged, notably for champagne and claret, and diminished for liqueurs, while for sherry the glass has remained more or less the same size; and by a coincidence sherry is the only recognised wine in the British Pharmacopœia. Our correspondent criticises the prescription severely for other reasons, in that it is not stated how often the bottle is to be refilled and is not signed or dated.

A PROPOSED FREE STATE MEDICAL SERVICE FOR SOUTH AFRICA.

IN the Union House of Assembly, Capetown, on June 29th, Mr. Hills, Labour Member for Springs (Witwatersrand), moved the appointment of a Select Committee to report upon the advisability of establishing a State medical service to provide free medical and hospital treatment. Mr. Hills pointed out the great increase in medical fees which made it almost impossible, he said, for people to avail themselves of medical assistance. On the other hand, there was the legal criminal responsibility incurred for not calling in medical aid. He referred to the great charge on the State which resulted from children growing up without the necessary medical treatment. The curing of the sick was a service inherent in any civilised community, and this was the principle underlying the motion.—Mr. Gow, in seconding the motion, said that he recognised the sacrifices made by the medical and nursing professions, which had done more for the sick than any other section of the community, but there was a large section of the community who could never afford to pay for a doctor or a nurse.

The Minister of Public Health, while agreeing with much that had been said, held that it would be practically impossible to carry out the principles of the motion. There were about 2500 doctors in the Union of South Africa, and their salaries would, he took it, average roughly about £1000 a year. The resolution therefore meant that the State would be called upon to bear an expenditure of £2,500,000 per annum, and, in addition, the cost of medicines and nurses. He feared, too, that if they tried to establish the principle proposed the medical men required would not be available. At the present time any person who was unable to pay was taken in free at all the State-aided hospitals, and he feared it would be difficult to go further just now. Government district surgeons also gave treatment and medicines free where necessary, and the Government was endeavouring to meet the needs of outlying districts.

Mr. Alexander (Unionist Member for Capetown) moved as an amendment to apply the motion to people unable to pay for treatment, or, alternatively, that a national insurance scheme be established to deal with cases of chronic invalidity or sickness. This amendment having been negatived by 51 votes to 43, the original motion was then defeated by 74 votes to 24.

INSANITY IN SCOTLAND.

THE sixth annual report of the General Board of Control for Scotland has just been issued, and shows that on Jan. 1st of this year there were 17,580 insane persons of whom the Board had official cognisance. The number included inmates of training schools for imbecile children who had not been certified under the Mental Deficiency Act, but was exclusive of insane persons maintained at home. Consideration of the total numbers of all certified patient shows that on Jan. 1st, 1916, there were 18,842 patients on the Board's register, as against 17,432 at the same date this year, being a decrease of 1410. The total number of patients admitted to establishments during 1919 was 3619. The admission-rate, which began to decline at the beginning of the war, appears to be resuming its usual rate of increase. The number of private patients discharged as recovered was 316, which is 66 more than in the previous year, while 955 paupers recovered—an increase of 145. The death-rate was 12·1, as against 14·6, the decrease being mainly due to the absence of epidemic diseases. The cost of maintaining pauper patients in asylums works out at 14*s.* 7*d.* per week, in licensed wards of poorhouses 13*s.* 8*d.*, and in private dwellings 9*s.* 7*d.* It is recorded with satisfaction that the limitation to £20,000 of the Government grant to local authorities has been removed by an amending Act, and that henceforth one-half of the costs of maintenance will be paid from Imperial funds

IN the *Hospital* for July 24th Mr. Gilbert G. Panter, secretary of the Great Northern Hospital, outlines a scheme of voluntary insurance for the purpose of providing a stable income for voluntary hospitals. The suggested insurance might serve to meet the demand on the part of workers for a definite guarantee of tangible benefits in exchange for their contributions.

Veritas has failed to substantiate his information by adding his name and address. There is nothing to prevent persons not on the Medical Register from giving so-called medical service. What they are not allowed to do is to represent that they possess medical qualifications.

Mr. W. R. N. does not describe what his practice is or give any detailed information concerning his patients. The matter is one that might be reported to the medical officer of health. It is quite outside the sphere of the General Medical Council.